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February 29, 2012

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CIVIL ENGINEERING

Engineering Studies

Site Development

Grading Plans

Improvement Plans

Drainage Plans

Sewer Water Line Plans

Hydrology/Hydraulics

Stormwater SWMP/SWPPP

Construction Administration

Pavement Rehabilitation

Forensic Engineering

Subsurface Utility Engineering

LAND SURVEYING

Property Surveys

Topographical Surveys

Construction Staking

Records of Survey

Legal Descriptions

Subdivision Maps

Easements

Height Certifications

Cadastral Surveys

Photogrammetric Surveys

ALTA Surveys

LAND PLANNING

Pre-Acquisition Analysis

Land Use Consultation

Environmental Analysis

Government Relations

Land Division

Tentative Maps

Major Use Permits

Specific Plans

Rezoning

Variances

Administrative Permits

Annexations

Boundary Adjustments

Subject: Former TM 5254 and current TPM 21193 and BA12-0009

The project proposes a Minor Subdivision (4 parcels and a remainder) and a Boundary Adjustment (4 parcels) to be filed concurrently on the subject property to the north of the Minor Subdivision and under the same ownership. The attached study reviews both proposals. Originally the proposed project was submitted as TM 5254. This TM was withdrawn and a new application for TPM 21193 and BA 12-0009 was submitted for review and processing by the County of San Diego.

Boundary Adjustment (BA 12-0009) reconfigures four existing parcels created per TPM14192 into 42.83, 46.75, 30.90 acres and the southern parcel is 110.03 acres. TPM 21193 proposes 4 parcels and a remainder on the southern parcel. APN 102-102-07 was included in the boundary of TM 5254 but it has been removed from the current proposal.

The pad locations and environmental impact review analyzed in this report for TM 5254 has not significantly changed with this new application.

Sincerely,



Ivan R. Fox PE

SDC DPLU RCVD 03-01-12

TPM21193

FIRE PROTECTION PLAN

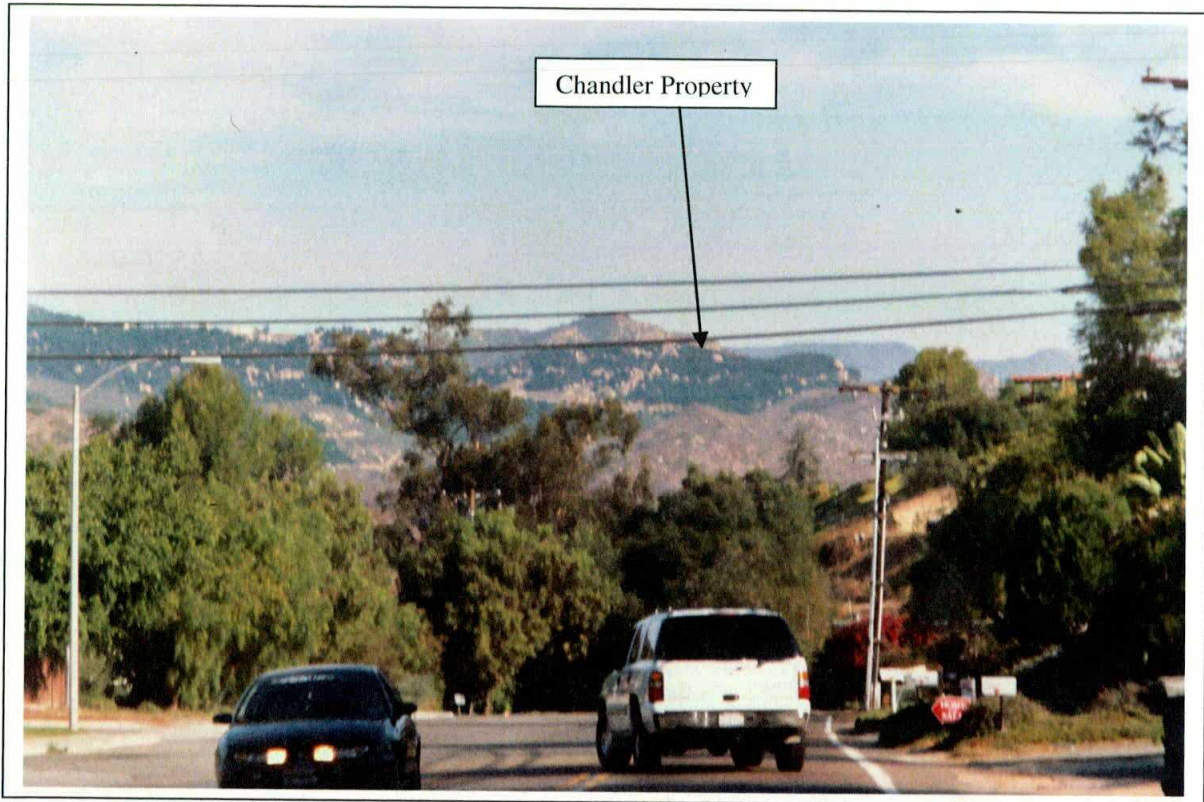
for the

Chandler Property TM 5284 RPL 1; LOG NO. 01-01-004A

North County Fire Protection District, Fallbrook, CA

Prepared for the County of San Diego

APN's 102-084-1400, 1500 and 1600; 102-102-0700, 0800, 0900, 1000 and 1100



Original Report: November 2004; 1st Iteration: February 2006; 2nd Iteration: March 2007; 3rd Iteration: May 2007; 4th Iteration: July 2007; 5th Iteration: January 2011; 6th Iteration: February 2011.

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TPM21193

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Sincerely,



Ivan R. Fox PE

CHANDLER PROPERTY FIRE PROTECTION PLAN

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FIRE PROTECTION PLAN
for the
Chandler Property TM 5284 RPL 1; LOG NO. 01-01-004A
North County Fire Protection District, Fallbrook, CA

Prepared for the County of San Diego

APN's 102-084-1400, 1500 and 1600; 102-102-0700, 0800, 0900, 1000 and 1100

EXECUTIVE SUMMARY

This project has been in the planning stages for a number of years. Since 2004, each time the Fire Protection Plan (FPP) has been submitted (original DRAFT FPP, November 2004; a revised Draft FPP, submitted in January 2005; an additional revised DRAFT FPP that included "Shelter in Place", which was requested by the North County Fire Protection District (NCFPD) and submitted in February of 2006; a corrected DRAFT FPP, which responded to NCFPD comments, submitted in March of 2007, additional changes requested by the NCFPD on the March DRAFT FPP and submitted in May of 2007 and finally additional new changes requested on the May 2007 DRAFT FPP, and resubmitted on July 29, 2007) there are a number of brand new issues or concerns that prevented the approval of the FPP and Tentative Parcel Map application. The applicant has made substantial revisions to his original proposal, going from 33 lots down to 12 lots and eliminating several parcels from this proposal that were beyond the General Plan Travel Time criteria of twenty minutes from the closest Fire Station. The redesigned lot sizes now range in size from 20.03 acres to 24.64 acres. All of the proposed development now falls within the General Plan Travel Time Requirement of 20 minutes. The North County Fire Protection District (NCFPD) has requested that we design this project for "Shelter in Place" and the NCFPD Fire Marshal provided Fuel Modification Zone guidelines for obtaining approval as a "Shelter in Place" development. In addition the FPP has been reformatted to comply with the County of San Diego DRAFT Guidelines for preparation of Fire Protection Plans in the County of San Diego. This FPP is now in full compliance with all known State, County and NCFPD standards, codes and guidelines. This Fire Protection Plan was approved by the NCFPD in August of 2007, however, following this approval five additional lots were eventually dropped from the Tentative Parcel Map (TPM) due to the inability of these five lots to meet County Percolation Test standards. The revised TPM now consists of a total of seven (7) lots ranging in size from 20 acres to 24 acres. This Fire Protection Plan has been revised to reflect these changes and to include references to the new County of San Diego Consolidated Fire Code passed by the County Board of Supervisors on November 13, 2009 and is being resubmitted for approval by the NCFPD.

1.0 INTRODUCTION

This Fire Protection Plan (FPP) has been prepared for the Chandler Property, TM 5284 RPL 1. The purpose of the FPP is to assess the potential impacts resulting from wildland fire hazards and identify the measures necessary to adequately mitigate those impacts. As part of the assessment, the plan has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions, and fire history. The plan addresses water supply, access (including secondary/emergency access where applicable), structure ignitability and fire resistive building features, fire protection systems and equipment, impacts to existing emergency services, defensible space, and vegetation management. The plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect one or more-at-risk communities and essential infrastructures. This FPP recommends measures that property owners will take to reduce the probability of ignition of structures throughout the area addressed by the plan.

2.0 PROJECT LOCATION, DESCRIPTION AND ENVIRONMENTAL SETTING

2.1 Project Location

The Chandler Property proposed development is located within a high fire hazard zone within the northern portion of the Fallbrook Community Planning Area in northern San Diego County. This proposed development is a planned residential community consisting of 7 estate lots on 262.43 acres, with most of the lots just over 20 acres in size (the smallest lot is 20.03 acres; the largest lot is 24.64 acres). The majority of the property is currently in avocado production. The Tract is located entirely within the Fallbrook Public Utilities District. Currently, Assessor Parcel Numbers 102-102-0900 and 1000 are within the North County Fire Protection District (NCFPD) boundaries and several smaller parcels, Assessor Parcel Numbers 102-084-1400, 1500, 1600 and 102-102-0800 and 1100 lie to the west of and are presently outside of the current Fire Protection District boundaries. Upon approval of the Tentative Parcel Map an application will be filed by the Chandlers with the Local Area Formation Commission (LAFCO) requesting that the tracts currently outside but immediately adjacent to the current Fire Protection District boundary be annexed into the NCFPD.

2.2 Project Description

For a visual depiction of this project please refer to the Fuel Treatment Location Map, which can be found at the end of this report.

- The revised project site consists of 262 acres that are currently in avocado production. The project area will be divided into seven 20 acre and larger estate sized lots. The intent is to continue with the production of avocados except for those lands taken up by new roads, driveways, the house footprint and required Fuel Modification Zones (FMZ's).

- The purpose of this proposed development is the construction of seven (7) single family homes located on large estate sized lots that will continue to remain in avocado production.
- The size of the proposed structures has yet to be decided. At this point only the building pads are located at this time. A set back of 30' or more from any structure, including buildings and decks or patio covers, to the edge of slopes, ridges, rims, drainages, canyons, cliffs, etc. is required with slopes of 30% or greater. This requirement applies to all parcels on the Chandler property due to the slopes being greater than 30%.
- At the present time there are approximately 17 easements, some of which are overlapping such as utility line easements to SDG&E and Pacific Bell. All existing easements are both depicted and listed on the Fuel Treatment Location Map. There are also several non-plot-able road easements, which are listed on the Fuel Treatment Location Map.
- There are no off-site improvements required, such as for roads or utility extensions.
- There are no proposed or potential Fuel Modification Zones located in currently designated open space areas.

2.3 Environmental Setting

The Chandler Property proposed development is located in a moderately hilly coastal zone approximately sixteen (16) miles inland from the ocean. The proposed project area is presently roaded, however, existing roads will need to be brought up to NCFPD standards. Access to the property is off of Harris Trail, which intersects, with De Luz Road to the south. The adjacent properties to the north and west are in intensive avocado production. The property to the east of the Chandler Property is on the outer slopes of Sandia Creek and is undeveloped and currently vegetated with a healthy cover of undisturbed coastal sage scrub and chaparral vegetation comprised of pockets of scrub oak, ceanothus, laurel sumac, sugar bush, mission manzanita, and toyon plants that are over 6-feet in height interspersed with large areas of low growing black sage, buckwheat, chamise and California sagebrush. The Sandia Canyon area currently represents the biggest threat to the Chandler Property proposed development. The area to the immediate south and lower east side of the Chandler Property burned in the February 2002 Gavilan Fire and is in an early stage of recovery with lots of flat topped buckwheat. The burned area will recover in time to look like the unburned property to the east of the Chandler Property with isolated clumps of taller vegetation (toyon, oaks, ceanothus, and mission manzanita) surrounded by large areas of low growing coastal sage scrub.

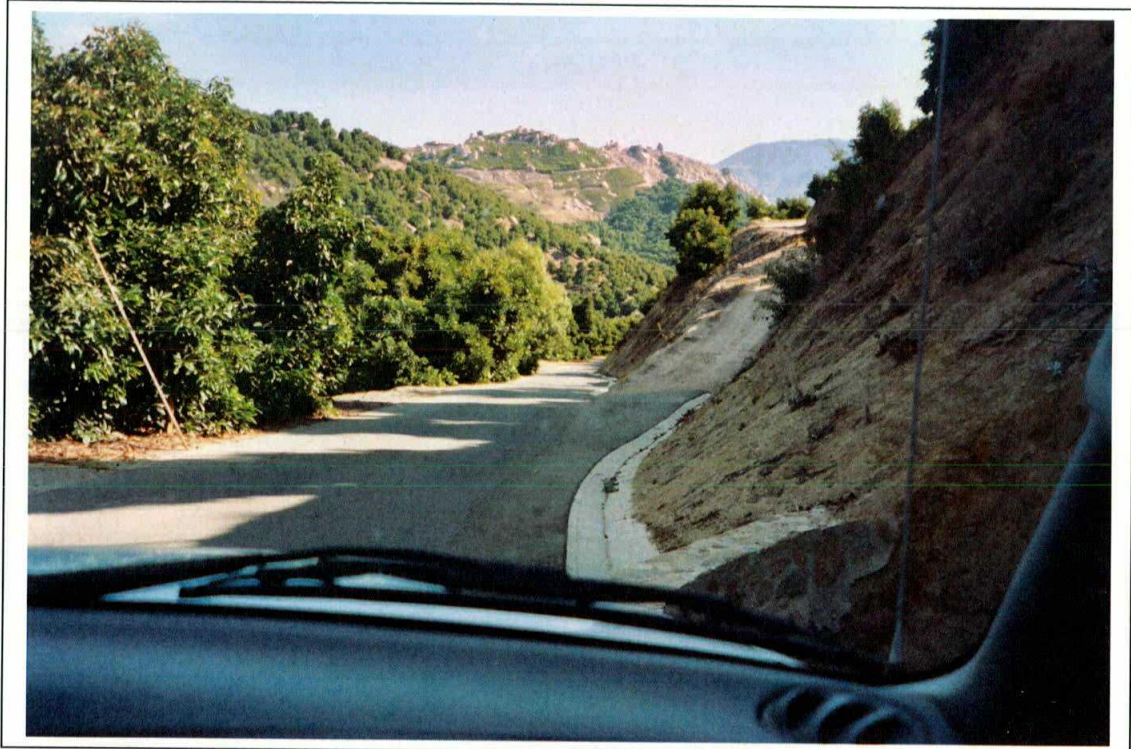
2.3.1 Off-site and On-site Fire Hazard and Risk Assessment

The Chandler Property is accessed off of Harris Trail via Conquistador Road. Conquistador Road traverses the entire upper one half of the property and proceeds in an easterly direction into Sandia Canyon. With the exception of the Chandlers private residence, several reservoirs, maintenance facilities, employee housing areas and the existing road system, that portion of the Chandler Property proposed for development is

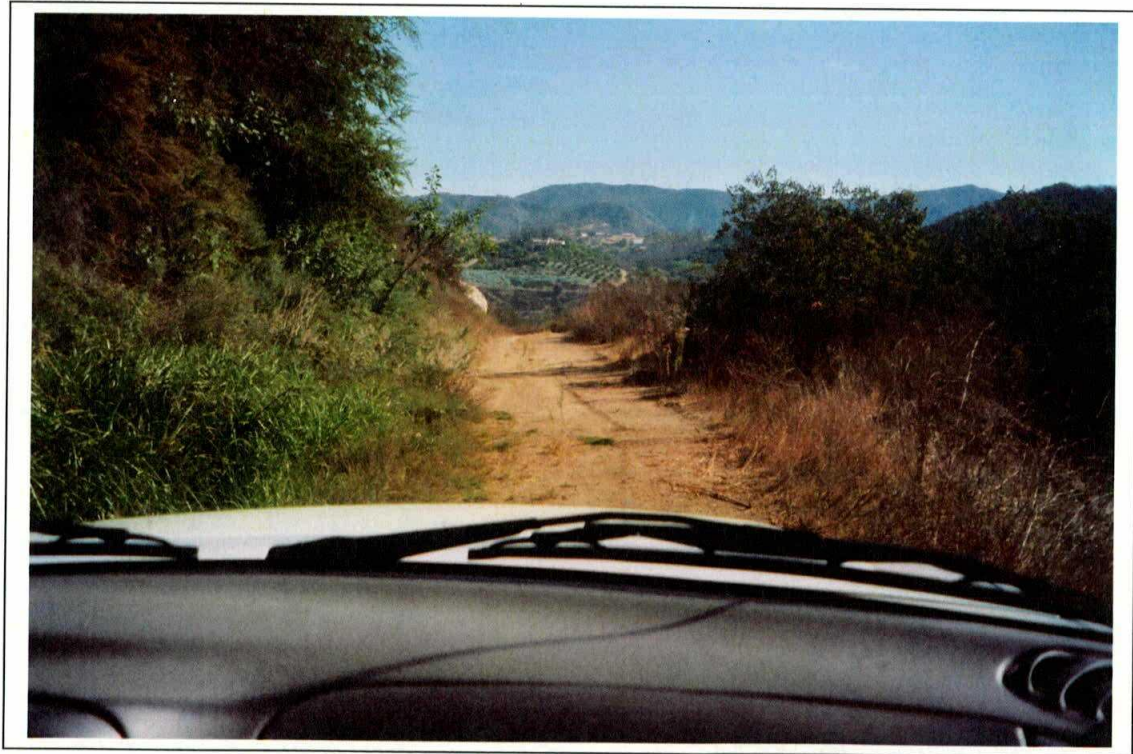
completely vegetated with well-managed avocado groves. The proposed development contemplates significant grading resulting in the removal of all existing vegetation on the 7 building pads. All proposed lots will be maintained to Zone A and Zone B Fuel Modification Standards for the first 100 feet around all sides of each structure. Additional Fuel Modification treatments will occur, consisting of thinning treatments beyond the Zone B Fuel Modification Zone out to 200 to 300 feet depending upon the slopes and are shown as Zone C and D on the Fuel Treatment Location Map. In addition, these planned treatments will provide adequate safety zones for "Sheltering in Place" as requested by the NCFPD in the event that a Santa Ana wind driven wildfire originating in Sandia Canyon overruns the development before evacuations could be accomplished.



↑ Photo 1: Looking north on Harris Trail, which is on the west side of the Chandler Property and is the primary access to the property. Well managed and maintained avocado groves can be seen on both sides of this photograph. Conquistador Road is about one quarter mile north of this location.



↑ Photo 2: Looking east from the intersection of Harris Trail and Conquistador Road. Lot 1 lies to the right or south of Conquistador Road with driveway access off of Conquistador Road.



↑ Photo 3: From the eastern property line looking northeasterly along the Conquistador Road access into Sandia Canyon.



↑ Photo 4: From Conquistador Road looking easterly into Sandia Canyon at the fuel loading on the slopes of the canyon. These fuels have not burned in the last 30 years and are best classified as a SH5 or an SH7 as shown on page 45 and 47 of the Standard Fire Behavior Fuel Models for use in BehavePlus 3.0.1. Riparian vegetation can be seen in the canyon bottoms.



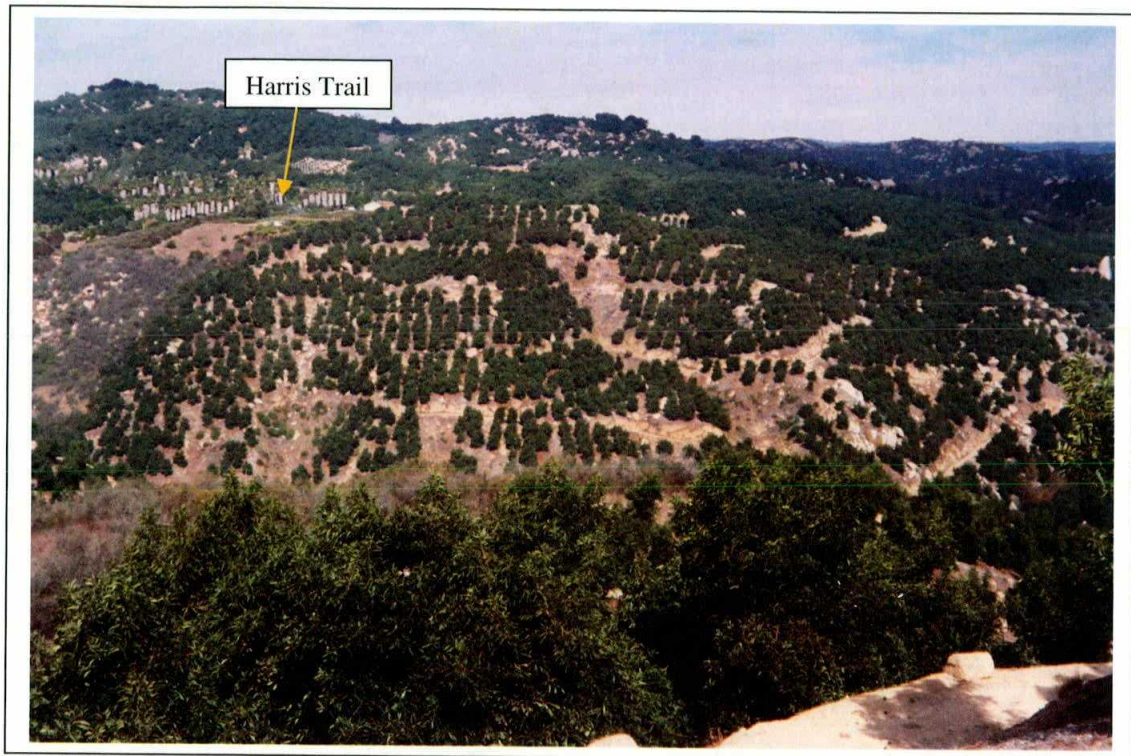
↑ Photo 5: From Conquistador Road looking southwest at the eastern edge of the Chandler Property. Lots 2 through 7 are on the avocado tree covered slope in the background. The fuels in the foreground are a short coastal sage scrub best described as an SCAL18 or an SH1. This area is well east of the Chandler property boundary.



↑ Photo 6: From the large reservoir near the eastern property boundary looking south at Lots 2 through 7 and at the well maintained avocado groves that will surround the homes on these lots. The main east west ridgeline in the background is near the southern boundary of this project.



↑ Photo 7: From the vicinity of the southern project boundary looking northeast along the drainage into Sandia Canyon. The dark green line of avocado trees and the fuelbreak along the northern boundary mark the northern limit of the Chandler property. The fuelbreaks north and northeast of the Chandler property are maintained by the Chandler's and the adjacent property owners.



↑ Photo 8: Looking north at the northern and western property boundaries, which lie well north of Lots 1-7. The rows of palm trees up in the left hand corner denote the west side of Harris Trail.

In summary, any wind driven wildfire burning in the existing native vegetation under northeast Santa Ana wind conditions to the northeast of the Chandler property creates a high wildland fire hazard to this proposed development. Santa Ana winds were recorded as gusting to 60 MPH during the February 2002 Gavilan Fire. Conversely, any wind or topography driven wildfire from the southwest will also create a moderate wildland fire hazard to the structures on Lots 1-5.

The proposed fuel Modification treatments (Zones A, B, C and, in some cases, Zone D Fuel Treatments) and the use of "Ignition-Resistant" building construction standards for homes built in Wildland Urban Interface (WUI) areas as required by the County Consolidated Fire Code, which includes the use of Class "A" roof assemblies, closed eaves with no attic ventilation openings or ventilation louvers in eave overhangs or between rafters at eaves on each structure, dual pane windows, interior sprinkler systems, an enhanced level of protection for all projections (decks and balconies) and non-combustible fire resistive exterior wall materials should significantly reduce the risk of loss to the 7 homes and other structures from wind driven embers and radiant heat against the northern, eastern, southern and western edges of this proposed rural development.

- Dates of site visits to determine fuel loading, location of lots and proximity to undisturbed native fuels: 10/08, 11/02, 11/05/2004 and 02/15/2005.

2.3.1.1 Topography: the property is bisected by a tributary to Sandia Creek. A lot by lot description of topography (slopes) follows:

Lot #1, a 22.19 acre lot with a 9,000 sq. ft. building pad. Slopes above and below the building pad approximate 50%.

Lot #2, a 20.84 acre lot with a 26,000 sq. ft. building pad. Slopes on the south side of this building pad approximate 50%.

Lot #3, a 20.03 acre lot with a 27,700 sq. ft. building pad. Slopes on the south side of this building pad approximate 41%.

Lot #4, a 21.03 acre lot with a 19,500 sq. ft. building pad. Slopes on the south side below this building pad approximate 50%.

Lot #5, a 24.64 acre lot with a 34,000 sq. ft. building pad. Slopes below this building pad approximate 33%.

Lot #6, a 20.14 acre lot with a 23,500 sq. ft. building pad. Slopes below this building pad approximate 35%.

Lot #7, a 20.63 acre lot with a 18,000 sq. ft. building pad. Slopes below this building pad approximate 50%.

2.3.1.2 Flammable vegetation: There is no flammable undisturbed native vegetation within the vicinity of any of these seven building pads. Each building pad will have 100 feet of permanently irrigated landscaping as measured horizontally from the outer edge of each home. The remainder of the FMZ's surrounding each structure will consist of well spaced avocado trees, with spacing intervals between the canopies of mature trees determined by the % slope. See section 3.1.5 for specifics. The grove irrigation system will remain in place. When built, the development will be governed by a Home Owners Association (HOA), which will also contract for the production of the remaining groves.

2.3.1.3 Fuel Loads: The building pads will be surrounded by well maintained and productive avocado groves. The well spaced trees within the boundaries of the FMZ's will also be limbed up to prevent ground fires from getting into the crowns (canopies) of the avocado groves, which could result in a crown fire.

2.3.1.4 Fire History for the Area: Many of the wildfires near this area are started on Camp Pendleton during training exercises. The most damaging wildfires are the Santa Ana wind driven wildfires which will blow wildfires started on Camp Pendleton towards the ocean and away from the Chandler project. The "Harris Spur Fire" of 1968 burned the majority of the Chandler project and the property to the east of the Chandler property. This fire history is significant as the last major fire in the area that burned all of the Fuel Model 4 fuels in the area to the north and east of the Chandler project occurred during the Harris Spur Fire and an unnamed fire in 1969, providing for a fire free interval of 39 years, that has resulted in a significant fuel loading of continuous, undisturbed native vegetation. The native

fuels to the southwest of Harris Trail and De Luz Road have not burned since 1983 resulting in a fire free interval of 24 years. The continuous fuel loading has been broken up by current agricultural operations, nurseries, and residences with large landscaped yards. The February 2002 5,700 acre Gavilan Fire was the last large wildfire to directly threaten the Chandler property. In fact, the northwest edge of the Gavilan wildfire was contained along the east and south boundaries of the Chandler property utilizing the wide fuelbreaks maintained by the Chandlers on their property boundaries. The Gavilan Fire was a Santa Ana wind driven wildfire caused by strong Santa Ana winds that whipped up a number of burn piles where trimmings were being burned in avocado groves to the northeast of Fallbrook. On October 22, 2007, the Rice Fire started east of Fallbrook, east of I-15, as the result of a downed power line and burned in a southwest direction under the influence of very strong Santa Ana winds. The Rice Fire consumed 9,000 acres and 206 structures and other buildings. The Rice Fire burned well to the south of the Chandler property. The Rice Fire grew in size due to the fact that numerous wildfires were already burning throughout southern California and in San Diego County, which limited the number of readily available firefighting resources. This incident makes the case for designing and maintaining new developments in an ignition resistant state that improves the odds of surviving a wildfire on their own without any intervention from wildfire firefighters that are already stretched to the maximum as the result of other earlier wind driven ignitions.

2.3.1.5 Elevation: Elevations range from 1,118 feet above sea level on the west side of this proposed development to 1,050 feet on the east side.

2.3.1.6 Climate: Climate is characterized by generally wet winters, with the bulk of the annual precipitation falling between January and March, and long dry and hot spring, summer and fall seasons, which dry out the native vegetation making some species very flammable.

2.3.1.7 Public and private ownership of land in the vicinity, particularly any preserved lands adjacent or contiguous to the site: The majority of the lands surrounding the north, south and west sides of the Chandler project are in private ownership and in agricultural production (avocados, citrus, and flowers). The property to the east of the Chandler project is owned by the Fallbrook Public Utility District. A portion of the Chandler property to the south of this proposed project that will not be developed as a part of this proposal is a high quality riparian area. This riparian area will not be impacted by this proposed project, nor will it impact this proposed project.

2.3.1.8 A description of the existing land uses on site and on surrounding lands: That portion of the Chandler property proposed for development has been in avocado production for a number of years. The surrounding properties on the north, south and west sides of the Chandler project are also being used to produce either avocados, citrus crops or flowers. The property to the east of the Chandler project is owned by the Fallbrook Public Utilities District (FPUD). The FPUD property is

an east facing slope vegetated in undisturbed native vegetation (see photo #4 on page 5). The Chandler project will have appropriate FMZ's to keep the planned structures separated from the FPU undisturbed native fuels. In addition, avocado groves on slopes 30% or steeper shall be irrigated and have 100' of fuel modification between the groves and undisturbed, highly flammable native fuels.

3.0 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

Prior to any construction within this proposed development, a Fire Protection Plan (FPP) must be prepared and submitted for approval by the NCFPD that evaluates the adverse environmental effects that this project may have from wildland fire and properly mitigate those impacts to ensure that this proposed project will not unnecessarily expose people or structures to a significant risk of loss, injury or death.

This FPP assesses the overall (on-site and off-site) wildland fire hazards and risks that may threaten life and property associated with the 7 proposed homes in the Chandler Proposed Development. In addition, the FPP establishes both short-term and long-term fuel modification actions required to minimize any projected fire hazards and risks and assigns annual maintenance responsibilities for each of the required fuel modification actions.

This FPP provides Fuel Modification Zone treatment direction for developers, engineers, architects, builders, landscape architects, the NCFPD, the County of San Diego Planning Officials and the Chandler Home Owners Association (HOA) to use in making all proposed structures on all lots reasonably safe from future wildland wildfires. This FPP includes:

- A wildland fire hazard-rating assessment and expected fire behavior of off-site and on-site native vegetative fuels;
- A long-term interior fuel modification treatment plan and "*Firewise landscaping*" criteria to be deployed around all planned structures on all 7 lots.
- The required ignition-resistant construction requirements for all structures.

3.1 Analysis of Project Effects

3.1.1 Adequate Emergency Services

- The NCFPD provides fire protection services to the Chandler property from their main headquarters station at 315 East Ivy Street in Fallbrook California.
- Travel times and distances were run by NCFPD Fire Marshal Sid Morel in one of the NCFPD engines. The travel time to the Chandler residence, which is beyond the revised proposed development, is 20 minutes as confirmed by Sid Morel and documented by County Planner, Robert Hingtgen in the DPLU meeting notes dated

July 6, 2006, in item # 3. Travel distance is 5.9 miles. The Chandler project lies between Harris Trail and the Chandler residence. All parts of the project can be accessed in less than 20 minutes.

- This project, with its redesigned larger lot sizes is now in full compliance with the Public Facilities Element of the San Diego County General Plan, which requires a twenty (20) minute or less response time to the farthest structure in the proposed Chandler project from the closest Fire Station.

3.1.2 Access

- The main access to the project area is off of Harris Trail, which intersects off of De Luz Road. The intersection of De Luz Road and Harris Trail is 4.0 miles from the NCFPD fire station. The proposed 7 lots are 20 acres or larger and are within the required twenty (20) minute response time from the closest Fire Station. All planned structures are within one mile of Harris Trail. NCFPD has specifically requested that this project be designed to accommodate "Shelter in Place" and has provided guidelines based on slope (See Section 3.1.5 and Appendix H).
- All project access roads will be no less than 24' in width.
- All access roads and driveways will meet NCFPD standards for turning radius. The standard is a 36 foot turning radius. The inside turning radius shall be 28 feet and the outside turning radius shall be no less than 45 feet for all access roads and driveways.
- All project access roads shall have a 30' wide fuel modification zone cleared of all flammable vegetation on each side of each road to Zone A standards.
- All project access roads and driveways shall have 13' 6" of vertical clearance free of over hanging vegetation.
- The existing access road to the Chandler residence shall be upgraded to meet the NCFPD standard of having turnouts every 200 feet.
- Maximum slope on roads will not exceed 20%; all slopes greater than 15% shall be concrete with a deep broom finish perpendicular to the slope.
- On-going road maintenance will be the responsibility of the Homeowner Association (HOA).
- Gates: All gates proposed for this development shall be equipped with an approved emergency agency Key Switch (Knox Key), which overrides all commands and opens the gate. All gates shall also be equipped with approved emergency vehicle strobe light detectors capable of detecting emergency vehicle pulsing strobe lights from any direction of vehicle approach, overriding all commands and opening the gate. Exit loop detectors shall be installed and activate (open) the gate and shall be independent of any other device. Gates shall automatically open using battery power in case of power failure, or other means approved by the NCFPD. Such controls shall be installed to the satisfaction of the NCFPD.

- This project will be in full compliance with existing codes/regulations and significance standards.

3.1.3 Water

- This project currently has its own system of wells and currently supplies all of its own water for avocado production. The existing on-site irrigation system for the avocado groves will remain in place. This project also lies within the FPUD and obtains supplemental irrigation water from the FPUD.
- The Project Facility Availability Form from the FPUD can be found in Appendix I.
- The Fuel Treatment Location Map, which also shows all of the existing and proposed fire hydrant locations and spacing can be found in the map holder immediately behind this Plan.
- This project will be in full compliance with existing codes/regulations and significance standards as follows:
 1. Residential type fire hydrants will be provided and installed to NCFPD and FPUD standards, with drip caps and blue dot markers in the street. The fire hydrants shall be capable of supplying 1500 GPM, with 2500 GPM available in the main.
 2. Hydrants shall be provided every 500 feet, at intersections and prior to the radius of cul-de-sac and access road turn arounds.
 3. Fire hydrants shall be provided within 500 feet of every structure and shall be located along the driveway.
 4. The substandard hydrants at the intersection of Conquistador Road and Harris Trail and at the Chandler residence shall be replaced with a standard hydrant as stated in # 1 above.
 5. The agricultural water system, consisting of ground water wells that are pumped into four above ground storage ponds (1 large pond and 3 small ponds) will continue to be a viable source of on-site irrigation water, even in drought situations with very light winter rains, which leads to conditions where the FPUD has curtailed irrigation water deliveries in the past (See Appendix J for the Grove Managers Water Use Strategy). The development will be supplied with water for domestic purposes by the FPUD. In drought years the groves will also be irrigated using FPUD water, saving the ground water and pond supply for those periods when the FPUD curtails water deliveries for irrigation purposes. This standby water supply shall meet all requirements of the electrical code. In addition, there is a large off-site pond on the Chandler property that is not part of this project. This off site pond, located just south of the Chandler residence, has been used in the recent past for fire protection and fire fighting purposes.

6. The FPUd water main goes right through the middle of this proposed development. The FPUd water main will provide a 2 hour fire flow of 2,500 gallons per minute at 20 psi.

3.1.4 Ignition-Resistant Construction/Fire Protection Systems

- All 7 single family homes and the farm labor housing shall be in full compliance with all of the required Ignition-Resistant Construction Standards of Chapter 7A of the County Building Code, as is required for all structures located within the WUI.
- The existing farm labor housing shall meet the requirements of "Ignition-Resistant construction" including the installation of residential fire sprinklers. The access driveway to the farm labor housing shall be 16 feet wide on a 20 foot wide graded width with an approved fire department turnaround at the terminus. The driveway to the Lot 2 residence and farm labor housing site shall have a 30 foot wide fuel modification zone cleared of all flammable vegetation on each side of the driveway. The driveway to the Lot 2 residence and the farm labor housing site shall also have the proper turnouts as required on the rest of the project.

3.1.5 Defensible (Survivable) Space and Vegetation Management

3.1.5.1 Flammable Vegetation Within and Adjacent to the Chandler Property. The Chandler property is currently, and has been, vegetated with healthy, very productive avocado groves. These well maintained and irrigated groves can best be described as a Fuel Model TL9 which is used to model wildfire in the avocado groves. A TL9 can be used to represent a mixed hardwood stand in a dry climate with a very high load of broadleaf litter. A Fuel Model TL9 will produce 19.9 foot flame lengths under northeast Santa Ana wind conditions with gusts up to 60 mph. The riparian vegetation in the bottom of the various Sandia Canyon drainages can best be described as a Fuel Model 10, which can be used to model a mixed hardwood stand with dead-down woody fuels. A Fuel Model 10, under Santa Ana wind conditions with gusts up to 60 mph will produce 24.3 foot flame lengths.

The vegetation surrounding the Chandler property on the east and south sides is highly flammable chaparral vegetation 6' or more in height (Fuel Model 4) capable of producing 98.1 foot flame lengths under northeast Santa Ana wind conditions gusting to 60 mph. The vegetation on the north and west sides of the Chandler property is primarily well maintained avocado and citrus groves.

3.1.5.2 Required Fuel Modification Zones for Building Pads and Access Roads. Each home site will have 50 feet of Zone A and 50 feet of Zone B Fuel Modification that will be permanently irrigated and planted to fire resistant low growing, low fuel volume plants from the County of San Diego Approved Plant List. In addition each home will have a Zone C and in some cases a Zone D Fuel Modification Zone that will require up to 300 feet of Fuel Modification around each home. On site access roads shall have 30 feet of Fuel Modification on each side of each road.

Every private lot with a structure on it is to have 50 foot of defensible space around it. This area is identified as Zone A. This Zone will encircle the structure on all four sides for a minimum of 50 feet, at which point Zone B will begin. Details for each FMZ adjacent to homes follows:

Zone A: An irrigated wet zone (0-50 feet). There should be no continuous ground cover or grass over 4 " in height in this zone. **Plants in this zone need to be fire resistant and should not include any pyrophytes that are high in oils and resins such as acacia, pines, eucalyptus, cedar, cypress, juniper species, or fan palms, pepper trees and pampas grass, which tend to accumulate and retain highly combustible dead plant material.**

No groves or orchards are permitted in this zone, however, single tree specimens, widely spaced may be installed beyond 15 feet if properly limbed (1/3 of the height or 8 feet), pruned, maintained and configured with no dead fuel component. Trees to be on 40 foot centers with properly separated mature canopies. No tree canopy at maturity can be any closer than 10 feet to the structure. Fire resistive, drought resistive, low fuel volume, high leaf moisture bedding plants, flowers, or shrubs of 18" or less may be allowed if properly maintained and if spaced as follows: 2 X the height on slopes 0-20%, 4 X the height on slopes 21-40%, and 6 X the height on slopes over 40%. **Thick, succulent or leathery leaf species are the most "fire resistant"**. The following native vegetation will not be permitted in this zone even as specimen plants because of their flammability: California sagebrush, *Artemisia californica*; chamise *Adenostoma fasciculatum*; flat-topped buckwheat, *Eriogonum fasciculatum*; and black sage, *Salvia mellifera*. Single, well spaced and maintained manzanita specimens are permitted. Please refer to the San Diego County plant list for a listing of appropriate species to plant in this zone. No firewood, fuel or propane tanks are permitted within 30 feet on any structure.

Regular maintenance and continued irrigation is most important in Zone A. If water for irrigation is limited, use more of the available water in Zone A rather than in Zone B. Plants with high moisture content are less likely to burn. Non-flammable concrete patios, drive ways, swimming pools, walkways, boulders, rock, and gravel can be used to break up fuel continuity within Zone A.

Combustible materials, including wooden privacy fencing are not allowed in any of the fuel modification zones (refer to item 1. under 4.1. Trellises, patio covers, and other auxiliary structures must be constructed with non-combustible materials. Minimum timber size requirements are 4"x 6", and columns must be masonry or stucco, or pre-cast concrete. The structure covering must remain 50% open, or Class A roofing is required. Decks should be built with non-combustible building materials, or constructed of heavy timber or fire retardant-treated wood. The area beneath the deck must be enclosed with fire resistant building material.

Firewood and combustible materials shall not be stored in unenclosed spaces, beneath buildings or structures, or on decks or under eaves, canopies or other projections or overhangs. Storage of Firewood and combustible material stored in

the defensible/survivable space area within Zone A shall be located a minimum of 30 feet from structures.

Landscape plans are required for all proposed homes and shall be submitted and approved by the NCFPD prior to lumber drop. Landscape plan submittals shall include, at a minimum, a readable scale, the delineation of all fuel modification zones, the existing vegetation, all irrigated areas, a plant legend with both botanical and common names and all plant material symbols used on the plan must be identified.

Zone B: Irrigated wet zone (50 feet to 100 feet). Vegetation in this zone shall consist of ground cover no taller than 4", bedding plants and flowers with fire resistive, drought resistive, low profile (not over 2 feet in height), low fuel volume, high leaf moisture shrubs. No dry grass over 4" in height. The following native vegetation will not be permitted in this zone even as specimen plants because of their flammability: California sagebrush, *Artemisia californica*; chamise *Adenostoma fasciculatum*, flat-topped buckwheat, *Eriogonum fasciculatum*; and black sage, *Salvia mellifera*. Avocado, citrus or single specimens of manzanita (if well spaced) are permitted if properly pruned, thinned, maintained and configured with no dead fuel component. Spacing of all shrubs is to be 2 X the height on slopes 0-20%, 4 X the height on slopes 21-40%, 6 X the height on slopes over 40%. Trees in this zone must be limbed up 1/3rd the height of the tree or 8 feet. Mature tree canopies must be separated by 30 foot spacing on 20% slopes or less, 60 foot spacing between mature tree canopies on slopes 21-40% and 90 foot spacing between mature tree canopies on slopes exceeding 40%. Twenty feet of spacing must be provided between the canopies of large mature trees and shrubs. Please refer to the San Diego County plant list for a listing of appropriate species to plant.

Plants in this zone need to be fire resistant and should not include any pyrophytes that are high in oils and resins such as acacia, pines, eucalyptus, cedar, cypress, juniper species, or fan palms, pepper trees and pampas grass, which tend to accumulate and retain highly combustible dead plant material.

All flammable and dead or diseased vegetation on private lots, including dead orchards and groves shall be removed as needed.

Properly sized chipped biomass (1/4" to 1/2" diameter by 4" to 6" long by 4" deep, with no manure added) may be installed and maintained in landscaped areas 30 feet or more from structures. The objective is to convert these landscaped areas to a fuel model 8 (a slow burning, low intensity, low heat release fire) as described in this plan, and to preclude the germination of exotic grasses.

Zone C: There is no requirement for irrigation, however, knowing that this zone will be in avocado production, it will be irrigated (100 feet to 150 feet upslope and 100 feet to 200 feet down slope on slopes 15 to 30%). Zone C begins at 100 feet out from each structure, where slopes are 15 to 30%, and extends out from each

structure in all directions where not constrained by adjoining property owners, to a total of 150' upslope and 200 feet down slope from each residence (Zones A, B and C). All lots fit this category due to the slopes surrounding the proposed structures on these lots. All citrus and avocado groves are to be irrigated and properly maintained. All of the Zone C areas will be surrounded by adjacent avocado groves so there is no need or requirement to have a separation from undisturbed native fuels. In Zone C provide separation between the canopies of mature avocado trees using 30 foot spacing on 20% slopes or less, 60 foot spacing between mature tree canopies on slopes 21-40% and 90 foot spacing between mature tree canopies on slopes exceeding 40%. Remove all dead plant material from existing tree canopies. Limb up all trees in this zone to 1/3rd of their height or to 8 feet above ground litter. This will eliminate the fuel ladder that will permit a ground fire from getting up into the canopies of existing trees. No flammable native or ornamental vegetation will be permitted in this zone. Remove all thinnings, prunings and dead debris and all dead or diseased trees in this zone. Mow or weed whack all cured grasses to a 4" stubble height.

Zone D: There is no requirement for irrigation, however, knowing that this zone will be in avocado production, it will be irrigated (150 feet to 300 feet upslope and 200 feet to 300 feet down slope, only on slopes greater than 30%. This criteria applies to all lots. Avocado groves on slopes 30% or steeper shall be irrigated and have 100 feet of clearance between groves and undisturbed, highly flammable native fuels. There is presently a 100' or wider fuelbreak along the north, east and part of the southern property line that separates the avocado groves on the Chandler property from undisturbed, highly flammable, native vegetation. The remainder of the southern property line from the Chandlers personal residence west to Harris Trail, and the west property line shall have a 100' wide fuel break constructed (please refer to the enclosed Fuel Treatment Location Map).

3.1.5.3 Maintenance, Responsible Party's. All Zone A areas will be regularly maintained by the individual homeowners. Zones B, C and D will be maintained by the Homeowner Association (HOA). Treatment costs will be shared among all 7 homeowners. In addition all 7 homeowners will contribute to a fund that will ensure NCFPD enforcement staffing in perpetuity. This funding will provide for annual inspections of all vegetation management zones including landscaping around each home as well as annual homeowners meetings with NCFPD officials to discuss the "Shelter In Place" process for the life of the project. NCFPD estimates inspections would take 1.5 hours per parcel, which includes preparing any needed notices, times 7 parcels totals 10.5 hours plus 4 hours for a yearly meeting for a total of 14.5 hours at an Inspector rate of \$30.00 per hour for an annual total of \$435.00. This amount, which will be adjusted for inflation, is required in perpetuity (the rate charged is based on the top step of the Inspectors Rate and that rate may be adjusted commensurate with future salary schedule changes).

3.1.5.4 Fire Fuel Assessment Summary. The irrigated Fuel Modification Zone A is best represented by one of the new 40 Fuel Models in BehavePlus Version 3.0.1. GR1 represents short sparse ground cover and will produce a flame length of 2.9 feet under Santa Ana wind conditions with wind gusts to 60 mph. It is highly unlikely that an irrigated landscape of low growing ground covers of 4 inches or less would produce 2.9 foot flame lengths. The well spaced avocado trees, limbed up 8 feet from the ground, are best represented by Fuel Model TL9. A TL9 is mixed hardwoods with a very high load of broadleaf litter. Under worst case Santa Ana wind conditions a TL9 will produce 19.9 foot flame lengths. With 100 feet of Zone A and B Fuel Modification, the 19.9 foot flame lengths will never reach the structures. The FM 10 riparian area fuels off the property will produce 24.3 foot flame lengths under worse case Santa Ana wind conditions. The off site FM 4 fuels will produce 96.8 flame lengths under worst case Santa Ana wind conditions. The Chandler property is surrounded by a wide fuel break on the north east and south sides adjacent to the property boundaries. The fuelbreak and the 300 foot wide fuel modification zones around structures on slopes over 30% will prevent flames from reaching the 7 planned homes. In addition, in the revised design, the FM 4 fuels are more than 400 feet away from planned homes where FM 4 fuels lie to the north and east sides of the Chandler property.

3.1.5.5 Proposed Plant Species. Plants used will be those approved on the County of San Diego Approved Plant List (see Appendix A). Prohibited and Invasive Plants will not be permitted and if present will be removed (see Appendix B).

3.1.5.6 Code Compliance. This FPP meets or exceeds the requirements of the current County of San Diego Consolidated Fire Code approved by the County Board of Supervisors on November 13, 2009, County of San Diego Building Code Chapter 7A, CBC/ART. 86 CFC; California Public Resource Code Sections 4290 and 4291 and California Code of Regulations Title 14 Section's 1270-1299 "SRA Fire Safe Regulations".

3.1.6 Cumulative Impact Analysis

There are no other known proposed developments in this area of the NCFPD. Many of the properties already have at least one substantial residence on the property. In addition, many of the surrounding properties also have barns, packing sheds and other ancillary structures associated with avocado and citrus production. The Chandler proposal would eventually add 7 more single family residences. The 7 homes and associated FMZ's are designed in such a way as to minimize the impacts on the NCFPD as opposed to adding impacts. This proposal actually frees up Emergency Fire Service Resources for assignment to other critical areas during large wildfire conflagrations where Emergency Firefighting Resources are in limited supply. As noted in the previous paragraph (3.1.5.6) entitled **Code Compliance**, this project meets or exceeds all applicable current codes and standards.

4.0 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Flame impingement, radiant heat and windblown embers from burning wildland vegetation, or other homes, causes structure ignitions during wildland wildfires. During periods of high wildfire intensity and strong, dry winds, windblown embers can be transported over great distances ranging from several hundred feet up to several miles.

Establishing generous and properly maintained fuel modification zones is the first step in preventing structure ignitions from flame impingement and radiant heat. This includes landscaping all developed areas with fire resistant plant materials. For the purpose of this FPP, Zone A comprises the first 50 feet of irrigated landscaping as measured horizontally from all sides of each structure. Zone B, which also consists of irrigated landscaping, extends from the edge of Zone A out to 100 feet, as measured horizontally from the edge of each structure. Zones C and D are comprised of well maintained, limbed (8' vertical clearance from ground fuels) and irrigated avocado groves with spacing between tree canopies determined by the % slope (see the Fuel Treatment Location Map and Section 3.1.5). All FMZ's will be within well maintained avocado groves. There is also an existing and maintained perimeter fuelbreak around the north and east sides of the Chandler property that separates the avocado groves from undisturbed native fuels. This fuelbreak will be extended along the south and west sides of the Chandler property so that the entire Chandler property boundary is flanked by fuelbreak.

The second step in preventing structure ignitions is guarding against the impact of wind blown embers through the use of Ignition-Resistant design and building materials. In addition, all structure interiors will be sprinklered in the event an interior fire starts from wind blown embers. All structures will be in compliance with the Ignition-Resistant standards of Chapter 7A of the County Building Code, as is required for all structures located within the WUI.

The eventual homeowner, and Homeowners Association (HOA) must maintain developed areas of the Chandler project to Zone A, B, C and D fuel modification standards. The individual homeowners must keep roofs and any rain gutters free of leaves, twigs and other combustible debris. All firewood and other combustible materials must be properly stored away from the structure so that burning embers falling on or near the structure have no suitable host.

In addition:

- *All roofs shall be Type A roof assemblies consisting of cement shakes with the flat O Hagen roof vents or Brandguard half round dormer style roof vents. All other vents, gable and foundation vents, will be Brandguard ember trapping vents.*
- *All windows shall be dual pane tempered glass with metal window screens.*

In the event of a wildfire all doors and windows must be kept closed with interior draperies pulled away from the windows. No combustible building materials are permitted in any of the fuel treatment zones. These and all other building

requirements will be documented within the CC&R's for all homeowners in the development.

4.1 Additional Recommendations for Inclusion in the CC&R's:

- 1) The lot/homeowner is personally responsible for all required fuel modification measures within Zone A. Every prospective homeowner must receive a Disclosure Statement that states they do not have the freedom to plant whatever they want on their lots because they live in a "High Fire Hazard Area". They also must receive a disclosure statement that combustible building materials are prohibited in all Fuel Modification Zones. They must sign a statement that they have received, read and fully understand their personal copy of this Fire Protection Plan.
- 2) The HOA, in consultation with the NCFPD, has authority for enforcing required fuel treatment measures on all lots and restrictions on unsuitable plants.
- 3) The Fuel Treatment Zones that extend beyond Zone A, i. e., Zones B, C and D will be the responsibility of the HOA for all required Fuel Modification work in Zones B, C and D and along all emergency ingress and egress routes.
- 4) All property owners are members of the HOA and shall financially support the annual maintenance of all required Fuel Modification Areas surrounding the 7 homes, the required Fuel Modification along all interior roadways and annual road maintenance. The responsibility to participate conveys with property transfers. Failure to maintain structures and landscaping in compliance with the County Consolidated Fire Code subject's owners to potential fines, and enforced abatement by the NCFPD or the County, with charges, including administrative costs and penalties, liened against the property(s).
- 5) The HOA must have authority for enforcing the ban on no trash dumping or disposal of yard trimmings in the fuel treatment zones.
- 6) The HOA is responsible to the NCFPD Fire Marshal for the completion of all required Fuel Modification Treatments prior to the annual fire season.
- 7) All individual lot landscaping plans, including additional structures within a Fuel Modification Zone, must be approved by the HOA in consultation with the NCFPD.
- 8) The HOA will also be responsible for Homeowner Education including the taking of alternate access routes out of the Chandler project. In addition, the HOA will work with the Greater San Diego Fire Safe Council and the Fallbrook Fire Safe Council to establish a separate Fire Safe Council or a sub chapter to the Fallbrook Fire Safe Council to actively promote fire preparedness and prevention within the Chandler Project.
- 9) All fuel modification zones shall be permanently marked on the ground for the purpose of guiding annual fuel modification maintenance operations. The most

reliable markers are steel fence posts with a baked on painted finish. The upper half of the above ground portion of the fence post is then painted a bright “day glo” orange to improve visibility. These Fuel Modification Zone markers must be spaced so that the markers on each side of an installed marker can be seen from that marker. Fuel Modification Zone markers should be installed at least every 500 feet and at changes in direction.

4.2 Fuel Treatment Location Map. The last page is a folder containing the FUEL TREATMENT LOCATION MAP depicting the location of all proposed fuel modification treatment locations on all lots.

5.0 CONCLUSION

Each of the potentially significant impacts described above in Section 4.0 have been reduced to “less than significant” as described in the mitigations for each impact and in accordance with the County of San Diego Guidelines for Determining Significance. As mentioned earlier in this report, the western half of this project lies outside the current boundary of the NCFPD. Upon approval of the Tentative Parcel Map the property owner will make application to LAFCO to have the western half of this project annexed into the NCFPD.

6.0 LIST OF PREPARERS AND PERSONS CONTACTED

6.1 List of Preparers

The following preparer of this Fire Protection Plan is on the current County of San Diego **CEQA CONSULTANTS LIST – FIRE PROTECTION PLANNING (New List Established March 9, 2007)**

Michael J. Rogers, Registered Professional Forester #787
Certified Urban Forester #109

6.2 List of Persons Contacted during the course of this project

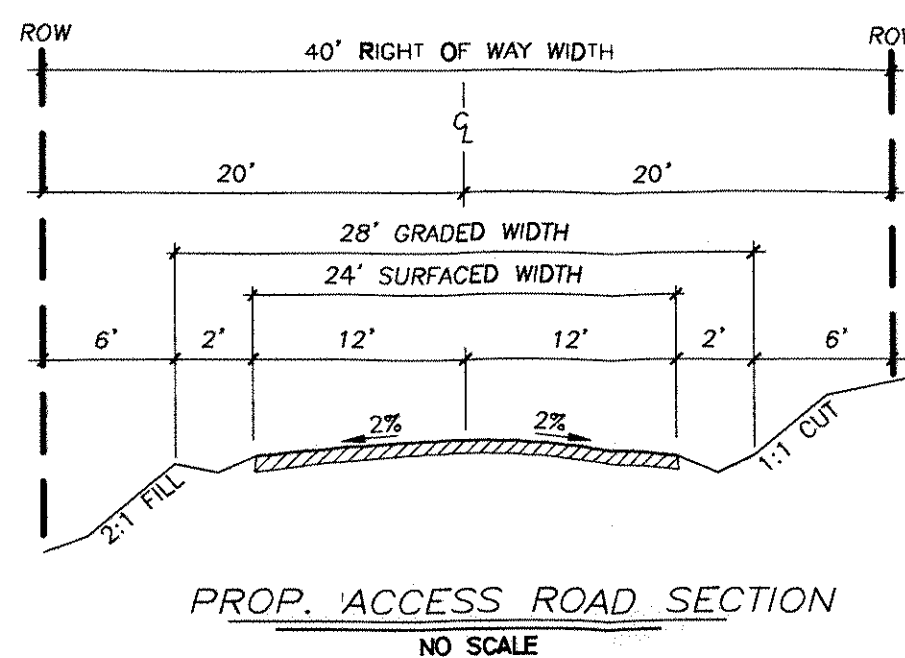
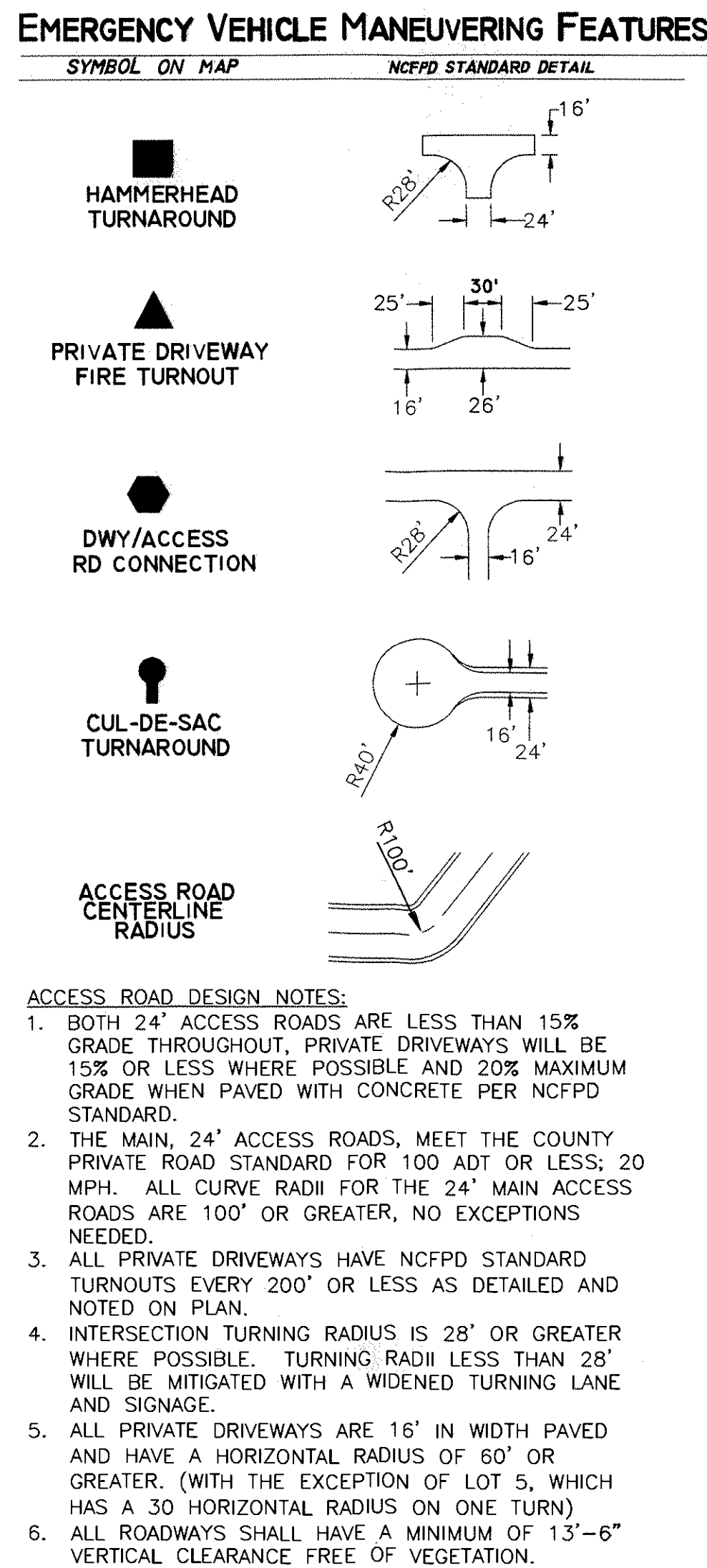
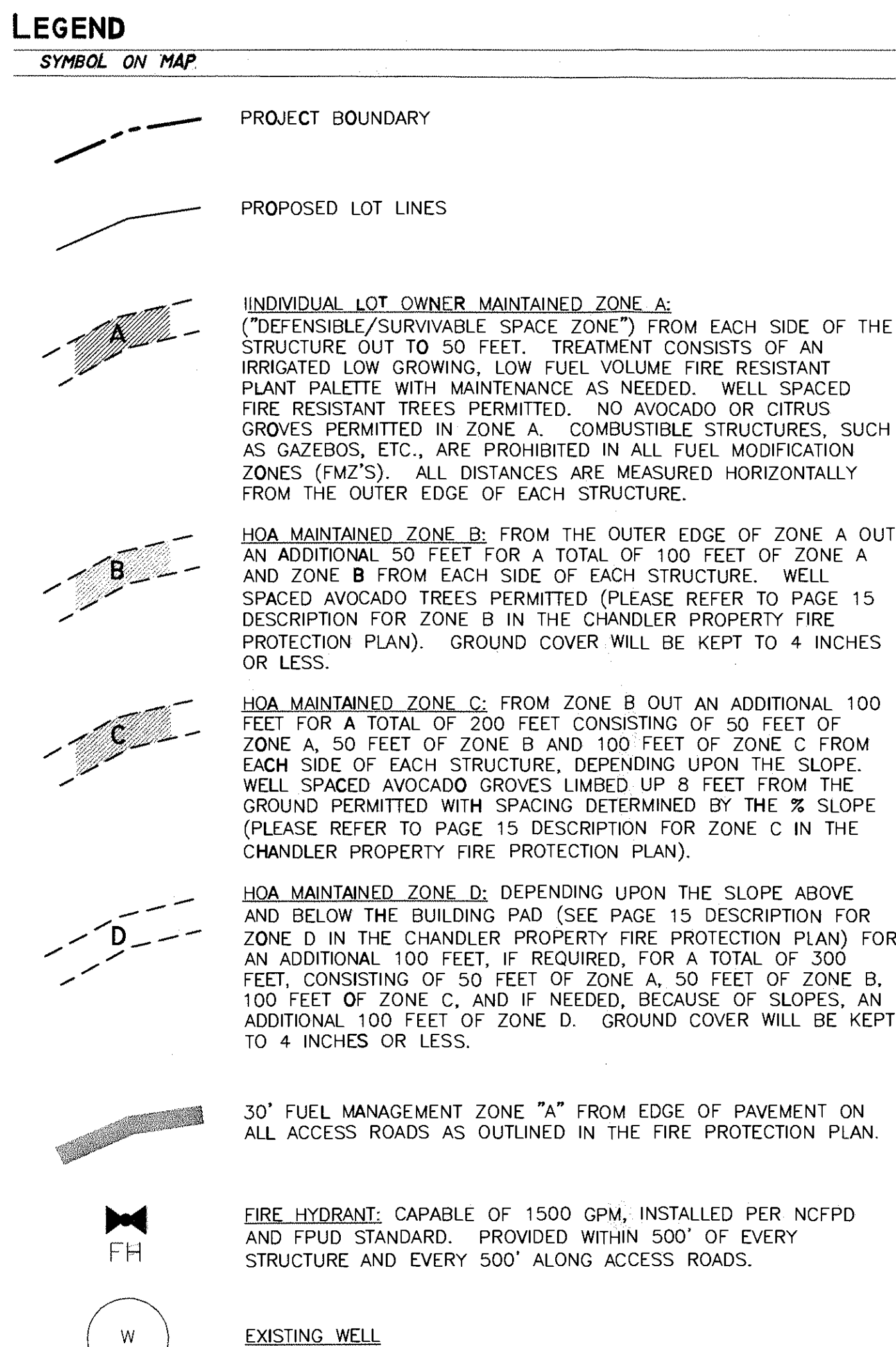
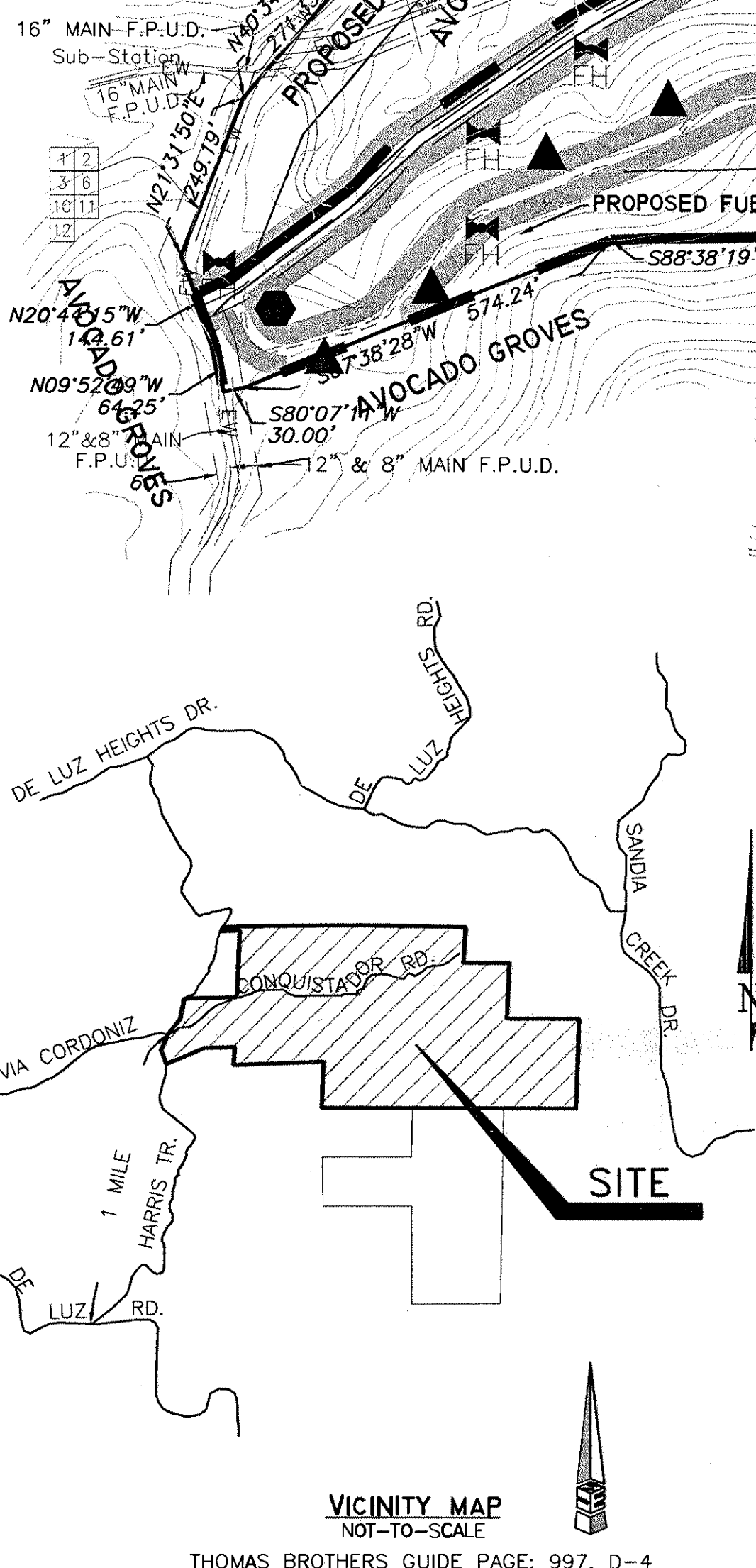
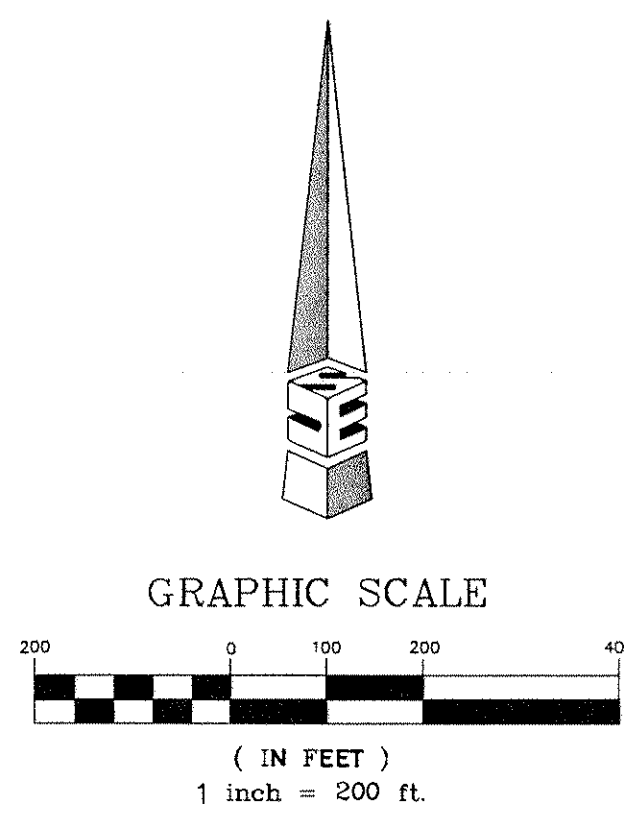
Sid Morel, Fire Marshal, North County Fire Protection District
Ralph Steinhoff, County of San Diego Fire Services Coordinator

7.0 LITERATURE CITED

County of San Diego, Report Format and Content Requirements, Wildland Fire and Fire Protection. DRAFT

County of San Diego, Guidelines for Determining Significance, Wildland Fire and Fire Protection. DRAFT

THE FPP MAP HOLDER FOLLOWS



CHICAGO TITLE PRELIMINARY REPORT 12/27/06

EASEMENT NOTES

- PRIVATE ROAD EASEMENT GRANTED TO SAMUEL S. SCHER RECORDED AUGUST 28, 1975 AS DOC. NOS. 120877 AND 120878 BOTH OF O.R.
- PRIVATE ROAD AND UTILITIES EASEMENT GRANTED TO WINDING CREEK HOUS. ET AL RECORDED MAY 20, 1964 AS FILE NO. 90529 OF O.R.
- PRIVATE ROAD AND UTILITIES EASEMENT GRANTED TO JOSEPH WILLIAM HODGMAN AND GRACE EUGENIE HODGMAN RECORDED OCTOBER 16, 1970 AS FILE NO. 18843 OF O.R.
- 40' WATER PIPELINE EASEMENT GRANTED TO THE DE LUZ HEIGHTS MUNICIPAL WATER DISTRICT RECORDED APRIL 23, 1978 AS FILE NO. 79-184749 OF O.R.
- 60' IRREVOCABLE OFFER OF DEDICATION TO THE COUNTY OF SAN DIEGO RECORDED MAY 15, 1979 AS FILE NO. 79-188351 OF O.R.
- 60' ROAD AND PUBLIC UTILITY EASEMENT RECORDED MAY 31, 1979 AS FILE NO. 79-222310 OF O.R.
- 12' PUBLIC UTILITY EASEMENT GRANTED TO THE SAN DIEGO GAS AND ELECTRIC CO. RECORDED DECEMBER 3, 1979 AS FILE NO. 79-507161 OF O.R.
- 12' PUBLIC UTILITY EASEMENT GRANTED TO THE SAN DIEGO GAS AND ELECTRIC CO. RECORDED JULY 14, 1980 AS FILE NO. 80-219893 OF O.R.
- 12' PUBLIC UTILITY EASEMENT GRANTED TO THE SAN DIEGO GAS AND ELECTRIC CO. RECORDED AUGUST 12, 1980 AS FILE NO. 80-254279 OF O.R.
- PUBLIC UTILITY EASEMENT GRANTED TO THE PACIFIC TELEPHONE AND TELEGRAPH CO. RECORDED JANUARY 4, 1983 AS FILE NO. 82-210695 OF O.R.
- 12' PUBLIC UTILITY EASEMENT GRANTED TO THE PACIFIC TELEPHONE AND TELEGRAPH CO. RECORDED FEBRUARY 28, 1982 AS FILE PAGE NO. 82-295788 OF O.R.
- 10' PUBLIC UTILITY EASEMENT GRANTED TO THE PACIFIC TELEPHONE AND TELEGRAPH CO. RECORDED JANUARY 4, 1983 AS FILE NO. 83-002509 OF O.R.
- 12' PUBLIC UTILITY EASEMENT GRANTED TO THE SAN DIEGO GAS AND ELECTRIC CO. RECORDED APRIL 24, 1986 AS FILE NO. 86-158907 OF O.R.
- 12' PUBLIC UTILITY EASEMENT GRANTED TO PACIFIC BELL RECORDED JUNE 7, 1991 AS FILE NO. 1991-027371 OF O.R.
- 12' PUBLIC UTILITY EASEMENT GRANTED TO THE SAN DIEGO GAS AND ELECTRIC CO. RECORDED JULY 24, 1991 AS FILE NO. 1991-038969 OF O.R.
- 12' PUBLIC UTILITY EASEMENT GRANTED TO THE SAN DIEGO GAS AND ELECTRIC CO. RECORDED JULY 24, 1991 AS FILE NO. 1991-038970 OF O.R.
- 12' PUBLIC UTILITY EASEMENT GRANTED TO THE SAN DIEGO GAS AND ELECTRIC CO. RECORDED FEBRUARY 23, 1995 AS FILE NO. 1995-007676 OF O.R.
- 12' PUBLIC UTILITY EASEMENT GRANTED TO THE SAN DIEGO GAS AND ELECTRIC CO. RECORDED DECEMBER 24, 1999 AS FILE NO. 1999-048541 OF O.R.
- 8' PUBLIC UTILITY EASEMENT GRANTED TO PACIFIC BELL RECORDED FEBRUARY 4, 1998 AS FILE NO. 1998-005683 OF O.R.

NON-PLOTTABLE EASEMENTS

PUBLIC ROAD EASEMENT GRANTED TO THE COUNTY OF SAN DIEGO RECORDED MARCH 1, 1988 IN BOOK 257, PAGE 357 OF DEEDS.

PRIVATE ROAD EASEMENT GRANTED TO RICHARD GRAY AND CORA B. GRAY RECORDED NOVEMBER 4, 1946 IN BOOK 2245, PAGE 384 OF O.R.

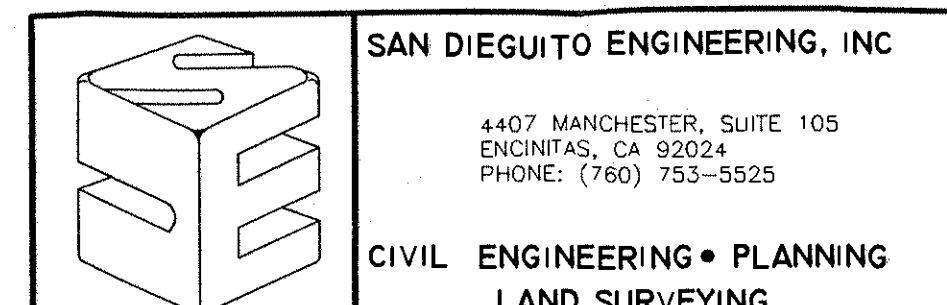
PRIVATE ROAD EASEMENT GRANTED TO WILBUR G. BUCKNER AND BESSIE B. BUCKNER RECORDED NOVEMBER 4, 1946 AS DOC. NO. 118501 OF O.R.

PRIVATE ROAD EASEMENT GRANTED TO JOHN W. DAY FEBRUARY 23, 1950 IN BOOK 3510, PAGE 458 OF O.R.

PRIVATE ROAD EASEMENT GRANTED TO DAVID B. EVANS AND LOU ANN EVANS RECORDED APRIL 11, 1985 AS FILE NO. 85190 OF O.R.

PRIVATE ROAD EASEMENT GRANTED TO WILBUR G. BUCKNER AND BESSIE B. BUCKNER RECORDED OCTOBER 12, 1971 AS FILE NO. 235492 OF O.R.

CERTIFIED BY RICHARD E. MONTAGUE
DATED: MAY 2007
RICHARD E. MONTAGUE
CALIFORNIA LICENSED FORESTER #905
FIREWISE 2000, INC.
330 West Felicita Avenue, D-1 • Escondido, CA 92025
Telephone: 760.745.3947



CONCEPTUAL FIRE PROTECTION PLAN

PREPARED FOR: NORTH COUNTY FIRE PROTECTION DISTRICT
APPLICANT: JEFFREY & ANN-CHARLOTTE CHANDLER, P.O. Box 1192, RANCHO SANTA FE, CA 92067

DATE: 02/28/12

TECHNICAL APPENDICES

"*FIREWISE*"
**Landscape Planting Considerations,
Approved Plant List**

Brahea armata, Melaleuca spp. and sage spp. are unacceptable and should not be on this list.

COUNTY OF SAN DIEGO
ACCEPTABLE PLANTS FOR FUEL MODIFICATION
ZONES IN FIRE PRONE AREAS
 (Wildland/Urban Interface/Intermix Areas)

ALL PLANTS ON THE FOLLOWING LIST are considered to be drought-tolerant in the particular climate zone noted. Those that grow best in riparian areas, as indicated by the (R), are the least drought-tolerant plants on the list.

SPECIAL NOTE: When planting, it is necessary to water deeply to encourage the plant roots to seek natural moisture in the soil. This watering should continue for at least three years to allow the plants to naturalize. More water should be provided in summer and less (if any) in the winter. These plants should be weaned off the supplemental irrigation and become less dependent on it over the establishment period.

No plant is totally fire resistant. The plants listed were chosen to due to their high water content, minimum amount of flammable resins and/or low fuel volume.

Definitions:

Survivable Space: The area around a structure, where material capable of causing fire has been cleared, reduced or changed, to act as a barrier between an advancing fire and the structure.

Drought-Tolerant Plant Materials: Trees, shrubs, groundcovers, and other vegetation capable of sustained growth and reproduction with only natural moisture. Occasional supplemental irrigation is necessary only in extreme drought situations.

Establishment Period: The time it takes for a plant to become drought-resistant. This is usually a period of three years and is the time when supplemental irrigation is necessary.

Native or Naturalizing Plant Species: Plant species native to the region or introduced, which, once established, are capable of sustaining growth and reproduction under local climatic conditions without supplemental irrigation.

San Diego County Climate Zone Key:

C - Coast
 D - Desert
 I. - Inland
 M - Mountain
 (R) - Riparian

SUGGESTED PLANT LIST FOR A DEFENSIBLE SPACE

<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>	<u>Climate Zone</u>
TREES		
Acer		
platanoides	Norway Maple	M
rubrum	Red Maple	M
saccharinum	Silver Maple	M
saccarum	Sugar Maple	M
macrophyllum	Big Leaf Maple	C/ (R)
Alnus rhombifolia	White Alder	C/I/M (R)
Arbutus		
unedo	Strawberry Tree	All zones
Archontophoenix		
cunninghamiana	King Palm	C
Arctostaphylos spp.**	Manzanita	C/I/D
Brahea		
armata	Blue Hesper Palm	C/D
edulis	Guadalupe Palm	C/D
Ceratonia siliqua	Carob	C/I/D
Cercidium floridum	Blue Palo Verde	D
Cercis occidentalis**	Western Redbud	C/I/M
Cornus		
nuttallii	Mountain Dogwood	I/M
stolonifera	Redtwig Dogwood	I/M
Eriobotrya		C/I/D
japonica	Loquat	C
Erythrina caffra	Kaffirboom Coral Tree	I/M
Ginkgo biloba "Fairmount"	Fairmount Maidenhair Tree	I/D/M
Gleditsia triacanthos	Honey Locust	
Juglans		I
californica	California Walnut	C/I
hindsii	California Black Walnut	I/D/M
Lagerstroemia indica	Crape Myrtle	I
Ligustrum lucidum	Glossy Privet	C/I/M
Liquidambar styraciflua	Sweet Gum	I
Liriodendron tulipifera	Tulip Tree	
Lyonothamnus floribundus		C
ssp. Asplenifolius	Fernleaf Catalina Ironwood	C/I/D
Melaleuca spp.	Melaleuca	C/I
Parkinsonia aculeate	Mexican Palo Verde	
Pistacia		
chinensis	Chinese Pistache	
	Pistachio Nut	C/I/D

vera	Pistachio Nut	I
Pittosporum		
phillyraeoides	Willow Pittosporum	C/I/D
viridiflorum	Cape Pittosporum	C/I
Platanus		
acerifolia	London Plane Tree	All zones
racemosa**	California Sycamore	C/I/M
Populus		
alba	White Poplar	D/M
fremontii**	Western Cottonwood	I
trichocarpa	Black Cottonwood	I/M
Prunus		
xblireiana	Flowering Plum	M
caroliniana	Carolina Laurel Cherry	C
ilicifolia**	Hollyleaf Cherry	C
lyonii**	Catalina Cherry	C
serrulata 'Kwanzan'	Flowering Cherry	M
yedoensis 'Akebono'	Akebono Flowering Cherry	M
Quercus		
agrifolia**	Coast Live Oak	C/I
engelmannii	Engelmann Oak	I
** suber	Cork Oak	C/I/D
Rhus		
lancea**	African Sumac	C/I/D
Salix spp.**	Willow	All zones (R)
Tristania conferta	Brisbane Box	C/I
Ulmus		
parvifolia	Chinese Elm	I/D
pumila	Siberian Elm	C/M
Umbellularia californica**	California Bay Laurel	C/I

SHRUBS

Agave	Century Plant	D
americana	Century Plant	D
deserti	Shawis Century Plant	D
shawii**		
Amorpha fruticosa**	False Indigobush	I
Arbutus		
menziesii**	Madrone	C/I
Arctostaphylos spp.**	Manzanita	C/I/D
Atriplex**		
canescens	Hoary Saltbush	I
lentiformis	Quail Saltbush	D
Baccharis**		
glutinosa	Mule Fat	C/I
pilularis	Coyote Bush	C/I/D
Carissa grandiflora	Natal Plum	C/I
Ceanothus spp.**	California Lilac	C/I/M
Cistus spp.	Rockrose	C/I/D
Cneoridium dumosum**	Bushrue	C
Comarostaphylis**		
diversifolia	Summer Holly	C
Convolvulus cneorum	Bush Morning Glory	C/I/M
Dalea		
orcuttii	Orcutt's Delea	D
spinosa**	Smoke Tree	I/D
Elaeagnus		
pungens	Silverberry	C/I/M
Encelia**		
californica	Coast Sunflower	C/I
farinose	White Brittlebush	D/I
Eriobotrya		
deflexa	Bronze Loquat	C/I
Eriophyllum		
confertiflorum**	Golden Yarrow	C/I
staechadifolium	Lizard Tail	C
Escallonia spp.	Escallonia	C/I
Feijoa sellowiana	Pineapple Guava	C/I/D
Fouquieria splendens	Ocotillo	D
Fremontodendron**		
californicum	Flannelbush	I/M
mexicanum	Southern Flannelbush	I
Galvezia		
juncea	Baja Bush-Snapdragon	C
speciosa	Island Bush-Snapdragon	C
Garrya		
elliptica	Coast Silktassel	C/I
flavescens**	Ashy Silktassel	I/M

Heteromeles arbutifolia**
 Lantana spp.
 Lotus scoparius
 Mahonia spp.

Malacothamnus
 clementinus

fasciculatus**

Melaleuca spp.
 Mimulus spp.**
 Nolina
 parryi
 parryi ssp. wolfii

Photinia spp.
 Pittosporum
 crassifolium
 rhombifolium
 tobira 'Wheeler'

undulatum
 viridiflorum
 Plumbago auriculata
 Prunus

caroliniana
 ilicifolia**
 lyonii**

Puncia granatum
 Pyracantha spp.
 Quercus

dumosa**
 Rhamus

alaternus
 californica**

Rhaphiolepis spp.

Rhus
 integrifolia**
 laurina
 lentii
 ovata**
 trilobata**

Ribes
 viburnifolium
 speciosum**

Romneya coulteri

Rosa
 californica**
 minutifolia

Ashy Silktassel
 Toyon
 Lantana
 Deerweed
 Barberry

San Clemente Island Bush Mallow

Mesa Bushmallow

Melaleuca
 Monkeyflower

Parry's Nolina
 Wolf's Bear Grass
 Photinia

Queensland Pittosporum
 Wheeler's Dwarf
 Victorian Box
 Cape Pittosporum
 Cape Plumbago

Carolina Laurel Cherry
 Hollyleaf Cherry
 Catalina Cherry
 Pomegranate
 Firethorn

Scrub Oak

Italian Blackthorn
 Coffeeberry
 Rhaphiolepis

Lemonade Berry
 Laurel Sumac
 Pink-Flowering Sumac
 Sugarbush
 squawbush

Evergreen Currant
 Fuschia-Flowering Gooseberry
 Matilija Poppy

I/M
 C/I/M
 C/I/D
 C/I
 C/I/M

C

C/I

C/I/D
 C/I (R)

I
 D
 All Zones

C/I
 C/I
 C/I/D
 C/I
 C/I
 C/I/D

C
 C
 C
 C/I/D
 All Zones

C/I

C/I
 C/I/M
 C/I/D

C/I
 C/I
 C/D
 I/M
 I

C/I
 C/I/D
 I

Salvia spp.**	California Wild Rose	C/I
Sambucus spp.**	Baja California Wild Rose	C/I
Symphoricarpos mollis**	Sage	All Zones
Syringa vulgaris	Elderberry	C/I/M
Tecomaria capensis	Creeping Snowberry	C/I
Teucrium fruticans	Lilac	M
Toxicodendron**	Cape Honeysuckle	C/I/D
diversilobum	Bush Germander	C/I
Verbena		
lilacina	Poison Oak	I/M
Xylosma congestum		
Yucca**	Lilac Verbena	C
schidigera	Shiny Xylosma	C/I
whipplei		
	Mojave Yucca	D
	Foothill Yucca	I

GROUNDCOVERS

Achillea**	Yarrow	All Zones
Aptenia cordifolia	Apteria	C
Arctostaphylos spp.**	Manzanita	C/I/D
Baccharis**		
pilularis	Coyote Bush	C/I/D
Ceanothus spp.**	California Lilac	C/I/M
Cerastium tomentosum	Snow-in-Summer	All Zones
Coprosma kirkii	Creeping Coprosma	C/I/D
Cotoneaster spp.	Redberry	All Zones
Drosanthemum hispidum	Rosea Ice Plant	C/I
Dudleya		
brittonii	Brittonis Chalk Dudleya	C
pulverulenta**	Chalk Dudleya	C/I
virens	Island Live Fore-ever	C
Eschscholzia californica**	California Poppy	All Zones
Euonymus fortunei		
'Carrierei'	Glossy Winter Creeper	M
'Coloratus'	Purple-Leaf Winter Creeper	M
Ferocactus viridescens**	Coast Barrel Cactus	C
Gaillardia grandiflora	Blanket Flower	All Zones
Gazania spp.	Gazania	C/I
Helianthemum spp.**	Sunrose	All Zones
Lantana spp.	Lantana	C/I/D
Lasthenia		
californica**	Common Goldfields	I
glabrata	Coastal Goldfields	C
Lupinus spp.**	Lupine	C/I/M
Myoporum spp.	Myoporum	C/I
Pyracantha spp.	Firethorn	All zones
Rosmarinus officinalis	Rosemary	C/I/D
Santolina		
chamaecyparissus	Lavender Cotton	All Zones
virens	Santolina	All Zones
Trifolium frageriferum	O'Connor's Legume	C/I
Verbena		
rigida	Verbena	All Zones
Viguiera laciniata**	San Diego Sunflower	C/I
Vinca		
minor	Dwarf Periwinkle	M

VINES

Antigonon leptopus
 Distictis buccinatoria
 Keckiella cordifolia**
 Lonicera
 japonica 'Halliana'
 subspicata**
 Solanum
 jasminoides

San Miguel Coral Vine
 Blood-Red Trumpet Vine
 Heart-Leaved Penstemon

C/I
 C/I/D
 C/I

Hall's Honeysuckle
 Chaparral Honeysuckle

All Zones
 C/I

Potato Vine

C/I/D

PERENNIALS

Coreopsis
 gigantea
 grandiflora
 maritime
 verticillata
 Heuchera maxima
 Iris douglasiana**
 Iva hayesiana**
 Kniphofia uvaria
 Lavandula spp.
 Limonium californicum
 var. mexicanum
 perezii
 Oenothera spp.
 Penstemon spp.**
 Satureja douglasii
 Sisyrinchium
 bellum
 californicum
 Solanum
 xantii
 Zauschneria**
 californica
 cana
 'Catalina'

Giant Coreopsis
 Coreopsis
 Sea Dahlia
 Coreopsis
 Island Coral Bells
 Douglas Iris
 Poverty Weed
 Red-Hot Poker
 Lavender

C
 All Zones
 C
 C/I
 C/I
 C/M
 C/I
 C/M
 All Zones

Coastal Statice
 Sea Lavender
 Primrose
 Penstemon
 Yerba Buena

C
 C/I
 C/I/M
 C/I/D
 C/I

Blue-Eyed Grass
 Golden-Eyed Grass

C/I
 C

Purple Nightshade

C/I

California Fuschia
 Hoary California Fuschia
 Catalina Fuschia

C/I
 C/I
 C/I

ANNUALS

Lupinus spp.**

Lupine

C/I/M

"*FIREWISE*" **Prohibited Plant Lists**

Plants That Are Prohibited Because Of Their High Flammability

Brahea armata, Melaleuca spp. and sage spp. should be added to the Prohibited/Undesirable list.

Plants That Are Prohibited Because Of Their Highly Invasive Nature

Lantana spp., Foeniculum vulgare and Ricinus communis should be added to the invasive list.

UNDESIRABLE PLANT LIST

The following species are highly flammable and should be avoided when planting within the first 50 feet adjacent to a structure. The plants listed below are more susceptible to burning, due to rough or peeling bark, production of large amounts of litter, vegetation that contains oils, resin, wax, or pitch, large amounts of dead material in the plant, or plantings with a high dead to live fuel ratio. Many of these species, if existing on the property and adequately maintained (pruning, thinning, irrigation, litter removal, and weeding), may remain as long as the potential for spreading a fire has been reduced or eliminated.

<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>
<u>Abies species</u>	Fir Trees
<u>Acacia species</u>	Acacia (trees, shrubs, groundcovers)
<u>Adenostoma sparsifolium**</u>	Red Shanks
<u>Adenostoma fasciculatum**</u>	Chamise
<u>Agonis juniperina</u>	Juniper Myrtle
<u>Araucaria species</u>	Monkey Puzzle, Norfolk Island Pine
<u>Artemisia californica**</u>	California Sagebrush
<u>Bambusa species</u>	Bamboo
<u>Cedrus species</u>	Cedar
<u>Chamaecyparis species</u>	False Cypress
<u>Coprosma pumila</u>	Prostrate Coprosma
<u>Cryptomeria japonica</u>	Japanese Cryptomeria
<u>Cupressocyparis leylandii</u>	Leylandii Cypress
<u>Cupressus forbesii**</u>	Tecate Cypress
<u>Cupressus glabra</u>	Arizona Cypress
<u>Cupressus sempervirens</u>	Italian Cypress
<u>Dodonea viscosa</u>	Hopseed Bush
<u>Eriogonum fasciculatum**</u>	Common Buckwheat
<u>Eucalyptus species</u>	Eucalyptus
<u>Heterotheca grandiflora**</u>	Telegraph Plant
<u>Juniperus species</u>	Junipers
<u>Larix species</u>	Larch
<u>Lonicera japonica</u>	Japanese Honeysuckle
<u>Miscanthus species</u>	Eulalia Grass
<u>Muehlenbergia species**</u>	Deer Grass
<u>Palmae species</u>	Palms
<u>Picea species</u>	Spruce Trees
<u>Pickeringia Montana**</u>	Chaparral Pea
<u>Pinus species</u>	Pines
<u>Podocarpus species</u>	Fern Pine
<u>Pseudotsuga menziesii</u>	Douglas Fir
<u>Rosmarinus species</u>	Rosemary
<u>Salvia mellifera**</u>	Black Sage
<u>Taxodium species</u>	Cypress
<u>Taxus species</u>	Yew
<u>Thuja species</u>	Arborvitae
<u>Tsuga species</u>	Hemlock
<u>Urtica urens**</u>	Burning Nettle

San Diego County native species

References: Gordon, H. White, T.C. 1994. Ecological Guide to Southern California Chaparral Plant Series. Cleveland National Forest.

Willis, E. 1997. San Diego County Fire Chief's Association. Wildland/Urban Interface Development Standards

City of Oceanside, California. 1995. Vegetation Management. Landscape Development Manual. Community Services Department, Engineering Division.

City of Vista, California 1997. Undesirable Plants. Section 18.56.999. Landscaping Design, Development and Maintenance Standards.

www.bewaterwise.com. 2004. Fire-resistant California Friendly Plants.

www.ucfpl.ucop.edu. 2004. University of California, Berkeley, Forest Products Laboratory, College of Natural Resources. Defensible Space Landscaping in the Urban/Wildland Interface. A Compilation of Fire Performance Ratings of Residential Landscape Plants.

County of Los Angeles Fire Department. 1998. Fuel Modification Plan Guidelines. Appendix I, Undesirable Plant List, and Appendix II, Undesirable Plant List.

INVASIVE PLANT LIST

The following species are considered invasive (i.e., those capable of reproducing and spreading into native, non-irrigated areas and displacing those communities). Non-native plant species are prohibited in all areas adjacent to open space lands. Noxious weeds that have been introduced to San Diego County over the years tend to be more widespread and therefore more difficult to contain. The plants listed below have been identified as invasive and/or as noxious weeds and should not be planted or allowed to sprout in any transitional landscapes (landscapes planted with non-native species next to undeveloped areas).

<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>
<u><i>Ailanthus altissima</i></u>	Tree of Heaven
<u><i>Anthemis cotula</i></u> ***	Mayweed, Stinking Chamomile
<u><i>Arctotheca calendola</i></u>	Cape Weed
<u><i>Arundo donax</i></u>	Giant Cane
<u><i>Atriplex semibaccata</i></u>	Australian Saltbush
<u><i>Brassica species</i></u> ***	Mustard
<u><i>Cardaria draba</i></u> ***	Hoary Cress, Perennial Peppergrass
<u><i>Carpobrotus edulis</i></u>	Ice Plant
<u><i>Centaurea solstitialis</i></u>	Yellow Starthistle
<u><i>Cirsium vulgare</i></u> ***	Wild Artichoke
<u><i>Conium maculatum</i></u>	Poison Hemlock
<u><i>Conyza Canadensis</i></u> ***	Horseweed
<u><i>Cortaderia selloana</i></u>	Pampas Grass
<u><i>Cotoneaster lacteus</i></u>	Cotoneaster
<u><i>Cupressus macrocarpa</i></u>	Monterey Cypress
<u><i>Cynara cardunculus</i></u> ***	Artichoke Thistle
<u><i>Cytisus species</i></u>	Scotch Broom, French Broom, etc
<u><i>Elaeagnus angustifolia</i></u>	Russian Olive
<u><i>Eucalyptus globulus</i></u>	Eucalyptus Blue Gum
<u><i>Gensita species</i></u> ***	Broom
<u><i>Hedera helix</i></u>	English Ivy
<u><i>Hypericum perforatum</i></u>	St. John's Wort
<u><i>Ilex aquifolium</i></u>	English Holly
<u><i>Lactuca serriola</i></u> ***	Prickly Lettuce
<u><i>Lepidium latifolium</i></u>	Perennial Pepperweed
<u><i>Myoporum parvifolium</i></u>	Trailing Myoporum
<u><i>Nerium oleander</i></u>	Oleander
<u><i>Nicotiana species</i></u>	Tree Tobacco
<u><i>Olea europaea</i></u>	Olive
<u><i>Pennisetum setaceum</i></u>	Fountain Grass
<u><i>Ricinus communis</i></u>	Castor Bean
<u><i>Robinia pseudoacacia</i></u>	Black Locust
<u><i>Salsola australis</i></u> ***	Russian Thistle, Tumbleweed
<u><i>Schinus molle</i></u>	California Pepper
<u><i>Schinus terebinthifolius</i></u>	Brazilian Pepper
<u><i>Silybum marianum</i></u> ***	Milk Thistle
<u><i>Spartium junceum</i></u>	Spanish Broom

Tamarix species

Ulex europea***

Vinca major

Tamarisk

Gorse

Periwinkle

*** Introduced Weeds to San Diego County

References: Bell, Carl, Regional Advisor – Invasive Plants. 2004. University of California Cooperative Extension.

California Exotic Pest Plant Council. October, 1999. Exotic Pest Plants of Greatest Ecological Concern in California. Most Invasive Wildland Pest Plants. www.caleppc.org/info/99lista.html.

Non-combustible & Fire Resistant Building Materials For balconies, Carports, Decks, Patio Covers and Floors

Examples of non-combustible & fire resistant building materials for balconies, carports decks, patio covers and floors are as follows:

I. NON-COMBUSTIBLE HEAVY GAGE ALUMINUM MATERIALS - Metals USA Building Products Group - Ultra-Lattice



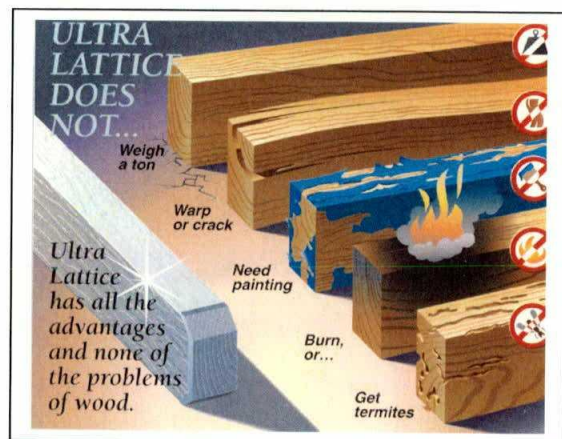
Ultra-Lattice Stand Alone Patio Cover



Ultra-Lattice Attached Patio Cover



Ultra-Lattice Solid Patio Cover



Ultra-Lattice Vs. Wood

There are several other commercial building materials on the market that would meet ANSI Standards for non-combustible or fire resistant building material criteria such as Hardi Plank. Developers have successfully used these approved products in an effort to allow individual homeowners to have more freedom in the selection of and use of fire resistant patio covers, decks and gazebos within their backyard areas that prohibit the use of combustible materials.

Literature Referenced in the.
Fire/Fuel Model Plan

1. Behave: Fire Behavior Prediction and Fuel Modeling System – BURN Subsystem, Part 1. General Technical Report INT-194. January 1986. Patricia L. Andrews, United States Department of Agriculture – Forest Service, Intermountain Station, Ogden, Utah, 84401.
2. Behave: Fire Behavior Prediction and Fuel Modeling System – BURN Subsystem, Part 2. General Technical Report INT-360. May 1989. Patricia L. Andrews and Carolyn H. Chase, United States Department of Agriculture – Forest Service, Intermountain Station, Ogden, Utah, 84401.
3. BehavePlus Fire Modeling System, Version 2.0 General Technical Report RMRS-GRT-106WWW. June 2003. Patricia L. Andrews, Collin D. Bevins & Robert C. Seli. United States Department of Agriculture - Forest Service, Rocky Mountain Research Station, Missoula, Montana.
4. How to Predict the Spread and Intensity of Forest and Range Fires. General Technical Report INT-1943. May 1989. Richard C. Rothermel, United States Department of Agriculture – Forest Service, Intermountain Station, Ogden, Utah, 84401.
5. Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model. General Technical Report RMRS-GTR-153, June 2005. Joe H. Scott, Robert E. Burgan, United States Department of Agriculture – Forest Service, Rocky Mountain Research Station.

FIRE BEHAVIOR CALCULATIONS

(53 pages)

**Modules: SURFACE, SIZE**

Description #1 Chandler Property, prevailing SW wind in off-s
Fuel/Vegetation, Surface/Understory

Fuel Model

4

Fuel Moisture

1-h Moisture

percent

5

10-h Moisture

percent

7

100-h Moisture

percent

9

Live Herbaceous Moisture

percent

Live Woody Moisture

percent

80

Weather

20-ft Wind Speed

mi/h

15.0

Wind Adjustment Factor

0.5

Direction of Wind Vector (from upslope)

deg

0

Terrain

Slope Steepness

percent

60

Fire

Elapsed Time

h

1.0

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always
for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

Output Variables

Surface Rate of Spread (maximum) (ft/min) [SURFACE]

Fireline Intensity (Btu/ft/s) [SURFACE]

Flame Length (ft) [SURFACE]

Direction of Maximum Spread (from upslope) (deg) [SURFACE]

Midflame Wind Speed (mi/h) [SURFACE]

Area (ac) [SIZE]

Perimeter (ft) [SIZE]

(continued on next page)

Input Worksheet (continued)

Notes

Run #1 is a mid summer prevailing southwest wind in the off-site Fuel Model 4 fuels on the south and west sides of the Chandler property. The avocado groves on the Chandler property are separated from the off-site undisturbed native fuels by a wide fuelbreak that runs along the Chandler property boundaries.



#1 Chandler Property, prevailing SW wind in off-site FM4 fuels

Surface Rate of Spread (maximum)	232.1 ft/min
Fireline Intensity	10729 Btu/ft/s
Flame Length	32.2 ft
Direction of Maximum Spread (from upslope)	0 deg
Midflame Wind Speed	7.5 mi/h
Area	1115.2 ac
Perimeter	31333 ft

**Modules: SURFACE, SIZE**

Description #2 Chandler Property, above average SW wind in of
Fuel/Vegetation, Surface/Understory

Fuel Model 4

Fuel Moisture

1-h Moisture percent 2

10-h Moisture percent 3

100-h Moisture percent 5

Live Herbaceous Moisture percent

Live Woody Moisture percent 50

Weather

20-ft Wind Speed mi/h 30

Wind Adjustment Factor 0.5

Direction of Wind Vector (from upslope) deg 0

Terrain

Slope Steepness percent 60

Fire

Elapsed Time h 1.0

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always
for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

(continued on next page)



Input Worksheet (continued)

Notes

Run #2 is a late season above average southwest wind in the off-site Fuel Model 4 fuels on the south and west sides of the Chandler property. The avocado groves on the Chandler property are separated from the off-site undisturbed native fuels by a wide fuelbreak that runs along the Chandler property boundaries.



#2 Chandler Property, above average SW wind in off-site FM4 fuels

Surface Rate of Spread (maximum)	851.9 ft/min
Fireline Intensity	48989 Btu/ft/s
Flame Length	64.7 ft
Direction of Maximum Spread (from upslope)	0 deg
Midflame Wind Speed	15.0 mi/h
Area	9480.9 ac
Perimeter	108300 ft

**Modules: SURFACE, SIZE**

Description #3 Chandler Property under NE Santa Ana winds in
Fuel/Vegetation, Surface/Understory

Fuel Model 4

Fuel Moisture

1-h Moisture percent 2

10-h Moisture percent 3

100-h Moisture percent 5

Live Herbaceous Moisture percent

Live Woody Moisture percent 50

Weather

20-ft Wind Speed mi/h 60

Wind Adjustment Factor 0.5

Direction of Wind Vector (from upslope) deg 0

Terrain

Slope Steepness percent 35

Fire

Elapsed Time h 1.0

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always
for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

(continued on next page)

Input Worksheet (continued)

Notes

Run #3 is a late season Santa Ana wind in the off-site Fuel Model 4 fuels on the north and east sides of the Chandler property on the Sandia Canyon slopes which run 35% near the Chandler property boundaries. The avocado trees on the Chandler property are separated from off-site undisturbed native Fuel Model 4 fuels by a wide fuelbreak system that runs along the Chandler property boundaries.



#3 Chandler Property under NE Santa Ana winds in off-site FM4 fuels

Surface Rate of Spread (maximum)	2049.4 ft/min
Fireline Intensity	117857 Btu/ft/s
Flame Length	96.8 ft
Direction of Maximum Spread (from upslope)	0 deg
Midflame Wind Speed	30.0 mi/h
Area	31985.4 ac
Perimeter	251598 ft

**Modules: SURFACE, SIZE**

Description #4 Chandler Property under NE Santa Ana winds in
Fuel/Vegetation, Surface/Understory

Fuel Model 10

Fuel Moisture

1-h Moisture percent 2

10-h Moisture percent 3

100-h Moisture percent 5

Live Herbaceous Moisture percent

Live Woody Moisture percent 50

Weather

20-ft Wind Speed mi/h 60

Wind Adjustment Factor 0.5

Direction of Wind Vector (from upslope) deg 0

Terrain

Slope Steepness percent 35

Fire

Elapsed Time h 1.0

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always
for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

(continued on next page)

Input Worksheet (continued)

Notes

Run #4 is a late season Santa Ana wind in the off-site Fuel Model 10 fuels on the north and east sides of the Chandler property in the Sandia Canyon riparian zone where slopes run 35% near the Chandler property boundaries. The avocado trees on the Chandler property are separated from off-site undisturbed Fuel Model 10 fuels by a wide fuelbreak system that runs along the Chandler property boundaries.



#4 Chandler Property under NE Santa Ana winds in off-site FM10 fuels

Surface Rate of Spread (maximum)	213.7 ft/min
Fireline Intensity	5840 Btu/ft/s
Flame Length	24.3 ft
Direction of Maximum Spread (from upslope)	0 deg
Midflame Wind Speed	30.0 mi/h
Area	347.4 ac
Perimeter	26231 ft

**Modules: SURFACE, SIZE**

Description #5 Chandler Property under NE Santa Ana winds in
Fuel/Vegetation, Surface/Understory

Fuel Model

t19

Fuel Moisture

1-h Moisture

percent

2

10-h Moisture

percent

3

100-h Moisture

percent

5

Live Herbaceous Moisture

percent

Live Woody Moisture

percent

Weather

20-ft Wind Speed

mi/h

60

Wind Adjustment Factor

0.5

Direction of Wind Vector (from upslope)

deg

0

Terrain

Slope Steepness

percent

50

Fire

Elapsed Time

h

1.0

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always
for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

(continued on next page)



Input Worksheet (continued)

Notes

Run #5 is a late season Santa Ana wind in the existing on-site Fuel Model TL9 avocado groves on 50% up hill north and east facing slopes on the Chandler property. The avocado trees on the Chandler property are separated from off-site undisturbed Fuel Model 4 and Fuel Model 10 fuels by a wide fuelbreak system that runs along the Chandler property boundaries.



andler Property under NE Santa Ana winds in on-site TL9 fuels (Avocado Gr

Surface Rate of Spread (maximum)	172.3 ft/min
Fireline Intensity	3772 Btu/ft/s
Flame Length	19.9 ft
Direction of Maximum Spread (from upslope)	0 deg
Midflame Wind Speed	30.0 mi/h
Area	223.0 ac
Perimeter	21145 ft

**Modules: SURFACE, SIZE**

Description #6 Chandler Property under NE Santa Ana winds in
Fuel/Vegetation, Surface/Understory

Fuel Model 9

Fuel Moisture

1-h Moisture percent 2

10-h Moisture percent 3

100-h Moisture percent 5

Live Herbaceous Moisture percent

Live Woody Moisture percent

Weather

20-ft Wind Speed mi/h 60

Wind Adjustment Factor 0.5

Direction of Wind Vector (from upslope) deg 0

Terrain

Slope Steepness percent 50

Fire

Elapsed Time h 1.0

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always
for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

(continued on next page)



Input Worksheet (continued)

Notes

Run #6 is a late season Santa Ana wind in the existing on-site Fuel Model 9 avocado groves on 50% up hill north and east facing slopes on the Chandler property. The avocado trees on the Chandler property are separated from off-site undisturbed Fuel Model 4 and Fuel Model 10 fuels by a wide fuelbreak system that runs along the Chandler property boundaries.



Adler Property under NE Santa Ana winds in on-site Fuel Model 9 (Avocado C

Surface Rate of Spread (maximum)	299.0 ft/min
Fireline Intensity	2432 Btu/ft/s
Flame Length	16.2 ft
Direction of Maximum Spread (from upslope)	0 deg
Midflame Wind Speed	30.0 mi/h
Area	680.6 ac
Perimeter	36704 ft

Modules: SURFACE, SIZE

Description #7 Chandler Property under NE Santa Ana winds in
Fuel/Vegetation, Surface/Understory

Fuel Model

gr1

Fuel Moisture

1-h Moisture

percent

2

10-h Moisture

percent

100-h Moisture

percent

Live Herbaceous Moisture

percent

50

Live Woody Moisture

percent

Weather

20-ft Wind Speed

mi/h

60

Wind Adjustment Factor

0.5

Direction of Wind Vector (from upslope) deg

0

Terrain

Slope Steepness

percent

60

Fire

Elapsed Time

h

1.0

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always
for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from upslope [SURFACE].

Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

(continued on next page)



Input Worksheet (continued)

Notes

Run #7 is a late season Santa Ana wind in the Zone A and Zone B Fuel Modification Zones consisting of grass with scattered shrubs and well spaced trees using a gr1 Fuel Model 9 on 50% up hill north and east facing slopes on the Chandler property. Zones C and D consist of well spaced avocado trees limbed up 8' from the ground. If fire spreads through these groves it will be through the ground fuels (grasses) and leaf litter. The avocado trees on the Chandler property are separated from off-site undisturbed Fuel Model 4 and Fuel Model 10 fuels by a wide fuelbreak system that runs along the Chandler property boundaries.



Chandler Property under NE Santa Ana winds in on-site irrigated grass and sh

Surface Rate of Spread (maximum)	34.7 ft/min
Fireline Intensity	59 Btu/ft/s
Flame Length	2.9 ft
Direction of Maximum Spread (from upslope)	0 deg
Midflame Wind Speed	30.0 mi/h
Area	35.9 ac
Perimeter	5064 ft

FIRE MODEL SUMMARY NARRATIVE

FIRE MODEL

SUMMARY NARRATIVE

This Fire Model Summary Narrative is based on the BehavePlus version 3.0.1 worksheets filed in Appendix E. Although there are a variety of slopes and aspects the slopes that produced the greatest intensity and flame length were utilized. The Fuel Moistures used depict the worst case 1 hour, 10 hour and 100 hour fuel moistures recorded in worst case fire weather conditions. Although this site is in the coastal climate zone, climate and fuels behave more like the climate and fuels in the dryer transitional climate zone.

The BehavePlus calculations for Fuel Model 4 fuels, which can be found on the east facing slopes of Sandia Canyon, are all located well away from the seven (7) home sites (beyond 300 feet). FM 4 fuels produce maximum 96.8 foot flame lengths. The closest FM 4 fuels are more than 300 feet away from the homes on lots 5, 6 and 7. The above average southwest winds will produce 64.7 foot flame lengths in FM 4 fuels under worst case conditions. The nearest FM 4 fuels are 300 feet or more away from the homes on lots 1, 2, 3 and 4. The riparian areas in Sandia Canyon (see photo #4) that run up to the property boundaries near lot 7 were modeled using an FM 10. An FM 10 fuel burning under worst case Santa Ana wind conditions and rock bottom 1 hour fuel moistures of 2% will produce flame lengths of 24.3 feet. The well maintained and irrigated groves were modeled using one of the new 40 fuel models; in this case the groves are best represented by the dry climate Hardwood Timber and Heavy Ground Litter Fuel Model (TL9). A TL9 will produce 19.9 foot flame lengths under worst case Santa Ana wind conditions and rock bottom 1 hour fuel moistures of 2% on steep up hill slopes.

The spacing of avocado trees in Fuel Modification Zones C and D will be determined by the % slope in each zone on each lot. Please refer back to Section 3.1.5 in the Fire Protection Plan. The remaining avocado trees in Zones B, C and D will not have the ability to provide a canopy of continuous crown fuels and will be unable to produce 19.9 foot flame lengths. The irrigated ground fuels in Zones A and Zone B are best characterized by Grass Model 1 (GR1). A GR1, under worst case conditions will not generate flame lengths greater than 2.9 feet. The irrigated Zone A with ground covers no taller than 4 inches in height will produce insignificant flame lengths. At this point, the biggest threat to the homes will be from wind blown embers. Homes built to the Ignition-Resistant Requirements are designed to with stand the impacts of radiant heat, which should be very minimal in this situation even under worst case conditions, and wind blown embers. The 300 foot wide Fuel Modification Zones will fully satisfy the NCFPD requirements for accommodating "Shelter in Place", if needed.

NCFPD

PROJECT FACILITY

AVAILABILITY FORM

FIRE

"Chandler Property FPP"



PROJECT FACILITY AVAILABILITY FORM

FIRE

Please type or use pen
Owner's Name Jeff Chandler Phone 760.634
Owner's Mailing Address PO Box 1315
Rancho Santa Fe CA 92067
City State Zip

ORG _____
ACCT _____
ACT _____
TASK _____
DATE _____

AMT \$ _____

DISTRICT CASHIER'S USE ONLY

SECTION 1. PROJECT DESCRIPTION

TO BE COMPLETED BY APPLICANT

- A. ☒ Major Subdivision (TM) ☐ Specific Plan or Specific Plan Amendment
☐ Minor Subdivision (TPM) ☐ Certificate of Compliance: _____
☐ Boundary Adjustment
☐ Rezone (Reclassification) from _____ to _____ zone.
☐ Major Use Permit (MUP), purpose: _____
☐ Time Extension... Case No. _____
☐ Expired Map... Case No. _____
☐ Other _____

Assessor's Parcel Number(s)
(Add extra if necessary)

1	0	2
1	0	2

1	0	2
0	8	4

7,8,9,10,11
14,15,16

- B. ☒ Residential Total number of dwelling units 12
☐ Commercial Gross floor area _____
☐ Industrial Gross floor area _____
☐ Other Gross floor area _____

Thomas Bros. Page _____ Grid _____
CONQUISTADOR ROAD
Project address Street
FALL BROOK 92028
Community Planning Area/Subregion Zip

- C. Total Project acreage 255.5 Total lots 12 Smallest proposed lot 20.03

OWNER/APPLICANT AGREES TO COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature Jeff Chandler Date: 03/14/2007
Address: P.O. Box 1315, Rancho Santa Fe, CA 92067 Phone: 858.756.8390
(On completion of above, present to the district that provides fire protection to complete Section 2 and 3 below.)

SECTION 2: FACILITY AVAILABILITY

TO BE COMPLETED BY DISTRICT

District name North County Fire Protection District

Indicate the location and distance of the primary fire station that will serve the proposed project: 315 East Ivy Street
5.9 miles

- A. ☒ Project is in the District and eligible for service.
☒ Project is not in the District but is within its Sphere of Influence boundary, owner must apply for annexation.
☐ Project is not in the District and not within its Sphere of Influence boundary.
☐ Project is not located entirely within the District and a potential boundary issue exists with the _____ District.
B. ☒ Based on the capacity and capability of the District's existing and planned facilities, fire protection facilities are currently adequate or will be adequate to serve the proposed project. The expected emergency travel time to the proposed project is 19.5 minutes.
☐ Fire protection facilities are not expected to be adequate to serve the proposed development within the next five years.
C. ☒ District conditions are attached. Number of sheets attached: 4
☐ District will submit conditions at a later date.

SECTION 3. FUELBREAK REQUIREMENTS

Note: The fuelbreak requirements prescribed by the fire district for the proposed project do not authorize any clearing prior to project approval by the Department of Planning and Land Use.

- ☐ Within the proposed project _____ feet of clearing will be required around all structures.
☒ The proposed project is located in a hazardous wildland fire area, and additional fuelbreak requirements may apply. Environmental mitigation requirements should be coordinated with the fire district to ensure that these requirements will not pose fire hazards.

This Project Facility Availability Form is valid until final discretionary action is taken pursuant to the application for the proposed project or until it is withdrawn, unless a shorter expiration date is otherwise noted.

Authorized signature Sgt. Marshall Print name and title Sgt. Marshall / Fire Marshal Phone 760-723-2015 Date 4/29/07

On completion of Section 2 and 3 by the District, applicant is to submit this form with application to:
Zoning Counter, Department of Planning and Land Use, 5201 Ruffin Road, Suite B, San Diego, CA 92123

COMMENT LETTERS

DATED JANUARY 19, 2007

APRIL 20, 2007

AND

JUNE 15, 2007

FROM THE NCFPD

315 East Ivy Street · Fallbrook, California 92028-2138 · (760) 723-2005 · Fax (760) 723-2004 · www.ncfire.org

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LOREN A. STEPHEN-PORTER – Board Secretary

January 19, 2007

County of San Diego
Department of Planning and Land Use
5201 Ruffin Road, Suite B.
San Diego, CA. 92123-1666

RE: Chandler subdivision, TM 5284

Please review the following comments pertaining to fire protection for this proposed project. These comments pertain to the recent map proposing the 12 – 20 acre or greater parcels. This agency recommends a “Shelter in Place” community be established for this project.

ACCESS: This agency will not accept Harris Truck Trail as viable secondary access. Harris Truck Trail to the North of this project is overgrown with dense vegetation and the road width is substandard. Residents would have to frequently drive this road to be familiar with route and in the event of a fire situation with limited visibility would be extremely dangerous to navigate. This agency feels the new design can work if a properly designed “Shelter in Place” community is built.

- The minimum width of the access road shall be 24 feet.
- The access and driveways will have to meet North County Fire Protection District standards for turning radius, and slope. (28 foot inside turning radius, max slope 20 % with 15-20% shall be concrete.)
- Provide additional cul-de-sac or turnout points along the access route along with fire hydrants.
- Driveways in excess of 200 feet and less than 24 feet in width shall be provided with turnouts in addition to turnarounds.
- Provide approved Fire Department turnarounds at every structure.

WATER SUPPLY:

- Provide residential type fire hydrants, installed to NCFPD and FPUD standards, with drip caps and blue dot markers, capable of supplying 1500 GPM, with 2500 GPM available in the main.
 1. Every 500 feet at intersections and prior to the radius of cul- de- sac and access road turn arounds.
 2. Within 500 feet of every structure along driveway.
 3. Upgrade the substandard Hydrant at the Chandler residence to a standard hydrant as listed above.
 4. Provide a plan that specifies the adequacy of the agricultural water systems on site.



PROUDLY SERVING THE COMMUNITIES OF FALLBROOK, BONSALE AND RAINBOW

COMBUSTIBLE VEGETATION CLEARANCE:

- Provide 300 feet of clearance around all residences.
- The on site access roads shall have 20 feet of flammable vegetation clearance on each side.

PRIVATE LOTS: Every private lot with a structure on it, is to have a 50 foot defensible space around it. This area is identified as "Zone A". This zone will encircle the structure (all four sides) a minimum of 50 feet at which point Zone B will begin.

1. Zone A: Irrigated wet Zone: (0-50 feet). There should be no ground cover or grass over 4 "in this zone. No flammable ornamental vegetation which can easily ignite and spread fire to structure. No groves or orchards. No tree limbs, branches or vines within 10 feet of chimneys. Fire Resistive, drought adaptive, low fuel volume, high leaf moisture bedding plants, flowers or shrubs of 18" or less may be allowed if properly maintained and if spaced as follows: 2X height on slopes 0-20 %, 4 X height on slopes 21-40%, and 6 X height on slopes over 40%. No avocado orchards or citrus groves. Single tree specimens, widely spaced may be installed beyond 15 feet if properly limbed (1/3 height or 8 feet), pruned, maintained and configured with no dead fuel component. Trees to be on 40 foot centers with properly separated mature canopies. No chaparral, chamise, coastal scrub, California Buckwheat. No exotics such as Cypress, juniper, acacia, eucalyptus, conifer, palm or pampass grass. Single well spaced and maintained Manzanita specimens are allowed. Refer to the approved San Diego County plant list. No firewood, fuel or propane tanks within 30 feet of any structure.
2. Zone B: Irrigated wet zone: (50 feet to 100 feet on slopes less than 15%): Ground cover, bedding plants and flowers to be fire resistive, drought adaptive, low profile (not over 2 feet), low fuel volume, high leaf moisture. No dry grass over 4 inches. No chaparral, chamise, coastal scrub, salvia spp., California buckwheat, cypress, juniper, acacia, eucalyptus, conifer, palm, or pamas grass on private lots. Avocado, citrus or single specimens of Manzanita (if well spaced) may remain if properly pruned, thinned, maintained and configured with no dead fuel component. Spacing of all plantings is to be 2 X height on slopes 0-20%, 4 X the height on slopes 21 – 40 %, 6 X the height on slopes over 40%.Limb up 1/3 the height or 8 feet. Separate mature tree canopies by 30 feet on 20% slopes or less, 60 foot spacing between canopies on slopes from 21% to 40 % and 90 foot separation on slopes exceeding 40%. Provide 20 feet between large trees and shrubs.

Remove all flammable and dead or diseased vegetation on private lots, including dead orchards and groves.

Properly sized chipped biomass (1/4" to 1/2" diameter by 4" to 6" long by 4" deep, with no manure added) may be installed and maintained in landscaped areas 30 feet and beyond from any structure. The objective is to convert the vegetation to a fuel model 8 (slow burning, low heat release fire) as described in this plan, and to preclude exotic grasses from regenerating.

3. Zone C: (Slopes 15 to 30%: 150 feet upslope and 200 feet downslope)

Zone C begins 101 feet out from the structure, where slopes are 15 to 30%, and extends further out from the structure in all directions where not constrained by adjoining property owners, to a total of 150' upslope, and 200 feet down slope, from the residence (Zones ABC).

In zone C significantly separate, thin, limb up and prune all flammable vegetation. Break up any continuous fuel beds. Remove all dead fuel from vegetation. Limb up trees to 1/3 their height or 8 feet. This will break the contact between ground and aerial fuels (remove ladder fuels). Provide 20 feet between large shrubs and trees. Utilize the same spacing for trees and shrubs as recommended for Zone B. No chamise, coastal scrub, salvia spp., California Buckwheat, conifers, acacia, cypress, juniper, eucalyptus, palm or pampas grass. Spacing between bushes, shrubs and plants to be the same as recommended for Zone B. Citrus groves and avocado orchards to be irrigated and properly maintained and, if possible, have 30 feet or greater if possible buffer zone (mowed/ whacked to 4 ") between them and flammable vegetation, such as the types prohibited in this zone. Remove all thinned, pruned, and dead debris from the property. Remove all dead or diseased orchards and groves. Mow or weed whack grasses to 4". Break up mature tree canopies in order to create adequate separation between mature tree canopies as specified by this plan.

4. Zone D begins 150 feet upslope or 200 feet downslope from the structure and is only required where down slopes are 30% or greater, in other than areas which only have grass which is mowed to 4", and extends out from the structure in all directions for a total of 300' from the residence. Citrus groves and Avocado orchards to be irrigated and properly maintained and have a minimum of 30 feet of buffer zone (mowed/ whacked to 4"). Groves and Orchards, on slopes 30% or steeper, should be irrigated and have 100 feet clearance between them and flammable vegetation such as chaparrals.

BUILDING SETBACKS:

Proposed structures shall be set back a minimum of 30 feet horizontally from top of slope to the farthest projection from a roof.

All buildings shall be built using the Counties "Enhanced" Construction requirements.

OTHER:

Due to the length of response time and the high wildland hazard zone the fire protection plan needs to incorporate the recommendations from this agency and create a community where the residence will be safe to stay. This should include other items such as all homeowners signing this agreement and going through annual training on the shelter in place concept.

These are general recommendations and by no means should be left alone as the Fire Protection Plan for this community. It is the recommendation of this agency that the consultant design an approvable "Shelter in Place Community."

Please feel free to contact me if you have any questions,

Sid Morel
Fire Marshal

NORTH COUNTY FIRE PROTECTION DISTRICT

315 East Ivy Street • Fallbrook, California 92028-2138 • (760) 723-2005 • Fax (760) 723-2004 • www.ncfire.org

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April 20, 2007

County of San Diego
Department of Planning and Land Use
5201 Ruffin Road Ste. B
San Diego, CA 92123-1666

RE: TM 5284, Chandler Subdivision

The Fire Protection plan presented to this agency dated March 2007 is not approved. Please review the following comments regarding this fire protection plan.

Secondary Access: The applicant states in the first paragraph of page 1 that the project does not need Secondary Access because of the increased lot size they now meet the 1 mile dead end road requirement. This agency does not accept the intersection of Harris Truck Trail and Conquistador as the starting point to determine the one mile requirement. This is based on the fact that Harris Truck trail to the North is inadequate. The road has below standard widths with large amounts of vegetation next to the road. The road is very dangerous with steep cliffs and sharp curves that in any kind of smoke environment would make driving very dangerous. The road requires a lot of "local" knowledge in order to navigate away from danger correctly. The reasons stated above were the rationale behind creating a "shelter in place" community.

Page 2 under 2.1- 3rd bullet point. Revise the setback requirements to state: "A setback of 30' or more from any structure, including buildings and decks or patio covers, to the edge of slopes, ridges rims, drainage, canyons, cliffs, etc. is required with slopes of 30% or greater. This requirement is for all parcels on the proposed project due to the slopes being greater than 30 %.

Page 3 first bullet point referring to Zone "D" page 16. The Fire protection plan states, "Avocado groves on slopes 30% or steeper shall be irrigated and have 100 feet of clearance between groves and undisturbed, highly flammable native fuels." It appears from the map that Lots 1, 3,7,8,9,10,11,12, all need either 100 feet of off site clearance or 100 feet of on site clearance between the Groves and the property lines.

Page 10: Section 2.3.1.2 states See Section 5.0 for specifics. When you go to section 5.0 there are no specifics.



PROUDLY SERVING THE COMMUNITIES OF FALLBROOK, BONSALE AND RAINBOW

TITLE

DATE

PAGE 2 OF 5

Page 10: Section 2.3.1.4 The Fire History needs to be revised. The "Harris Spur Fire" of 1968 burned the majority of this project. The Fire History is significant because the last major fire in the area that burned the fuel model 4 to the North and East occurred during the Harris Spur fire and an unnamed fire of 1969. The Gavilan Fire of 2002 burned some of the fuel to the South and West of the project but a significant portion specifically along Harris Truck Trail and De Luz Road has not burned since 1983. This is a concern because that would be the route traveled for emergency equipment from our district.

Page 11, Section 2.3.1.7 states "There are no public lands in the vicinity of the Chandler Property." The next section 2.3.1.8 states the property to the east of the Chandler property is "owed" (spelling, should be owned) by the Fallbrook Public Utilities District. I believe property owned by the Public Utilities District is public.

Page 11, Section 2.3.1.8 the statement reads "all of the surrounding properties are also being used to produce avocados, citrus crops or flowers. The FPUD property is an east facing slope vegetated in undisturbed native vegetation." Please revise this statement by removing "all of". The next statement reads "The Chandler project will have appropriate FMZ's to keep the planned structures separated from the FPUD undisturbed native fuels." Please address the requirements for the lots with a Zone D to include the statement on page 16. "Avocado groves on slopes 30% or steeper shall be irrigated and have 100 feet of clearance between groves and undisturbed, highly flammable native fuels."

Page 12, Section 3.1.2 Access: This statement is incorrect from the standpoint that this agency does not accept Harris Truck trail to the North as satisfactory Secondary access. That is the reason the applicant is being asked to prepare a fire protection plan that meets an acceptable "Shelter in Place" criteria.

Designate that the access roads shall have 30 feet of flammable vegetation clearance on each side of the access roads and designate this area the same as zone "A".

Designate that all roadways shall have a minimum of thirteen (13) feet six (6) inches vertical clearance free of vegetation.

Page 13 Section 3.1.3 Water: The first bullet explains that the development currently has its own system of wells and currently supplies all of its own water for avocado production. The third bullet number 5 needs to be addressed in the Fire Protection Plan. This private water system is critical for the development to be approved as a "shelter in place" development. We know that the public water system was turned off for 4 days prior to the Gavilan fire and the Avocado trees burned with an almost unbelievable intensity. Because of this it is imperative that the development incorporate a "standby" power supply for the private system.

Demonstrate in the Fire Protection Plan how the Private Water system will be used to enhance the safety of this community. This standby water supply shall meet all requirements of the *Electrical code*.

TITLE

DATE

PAGE 3 OF 5

Hydrants: The term upgrade is not appropriate for a substandard hydrant. The existing substandard hydrant at the Chandler residence and at the intersection of Conquistador and Harris Truck Trail need to be replaced with a standard residential hydrant.

Page 13 Section 3.1.3 states Fire Hydrants shall be provided every 500 feet, at intersections and prior to the radius of cul-de-sac and access road turn arounds. The map presented to this agency with the hydrants located do not meet this requirement. While the 500 feet spacing appears to be correct in most instances numerous intersections and turn arounds do not have hydrants located at them. The applicant shall also install an additional hydrant at the intersection of Harris Truck Trail and the driveway to lot 3 on the South East side. All fire hydrants shall be part of the Public water system. The applicant shall also provide hydrants every 500 feet along the access road to the existing Chandler residence.

Page 14 states: "The vegetation surrounding the Chandler property on the east and south sides is highly flammable chaparral vegetation 6' or more in height (Fuel Model 4) capable of producing 98.1 foot flame lengths under northeast Santa Ana wind conditions gusting to 60 mph." As stated previously, page 11, Section 2.3.1.8 states "All of the surrounding properties are also being used to produce avocados, citrus crops, or flowers. Revise these portions of the Fire Protection Plan to correctly address this issue.

Page 15 states: Remove the statement regarding wooden privacy fencing and instead refer to page 18 that states "They also must receive a disclosure statement that combustible building materials are prohibited in all Fuel Modification Zones." Include the following statement: Trellises, patio covers and other auxiliary structures must be made with non-combustible materials. Minimum Timber size requirements are 4X6, and columns must be masonry or stucco, or pre-cast concrete. The structure's covering must remain at least 50% open, or Class - A roofing is required. Decks should be non-combustible, or constructed of heavy timber or fire retardant- treated wood.

Include a statement that specifically addresses Storage of firewood and Combustible Materials: Firewood and combustible material shall not be stored in unenclosed spaces beneath buildings or structures, or on decks or under eaves, canopies or other projections or overhangs. Storage of Firewood and combustible material stored in defensible space shall be located a minimum of 30 feet from structures.

Provide an acceptable plan that will provide a funding mechanism that will ensure Fire agency enforcement staffing in perpetuity: This funding will provide for annual inspections of all Vegetation management including landscaping as well as annual homeowners meetings with the Fire Department to discuss the "Shelter in Place" process for the life of the project.

The map presented to this agency shows some farm labor buildings and mobile homes to remain. These units shall be modified to meet the enhanced building requirements as well as have proper access, water supply at the site. The same vegetation Zone requirements shall apply. The Existing Chandler residence although is off- site needs to meet the same requirements as the proposed development. Please revise the plan to address these existing structures that will remain.

TITLE

DATE

PAGE 4 OF 5

The sizes for the proposed cul-de-sac turn arounds are not acceptable. The standard is a 36 foot radius. The **inside** turning radius shall be 28 feet and the outside turning radii shall be no less than 45 feet for all access roads and driveways.


The access roadway to the existing Chandler residence needs to be upgraded to meet the standard of having turnouts every 200 feet.

Landscape plans are required to all proposed homes and shall be submitted and approved by the North County Fire Protection District prior to framing inspection. Landscape plan submittals shall include, at a minimum, a readable scale, the delineation of all fuel modification zones, the existing vegetation, and all irrigated areas, a plant legend with both botanical and common names and identify all plant material symbols.

Gates: All gates proposed for this development shall be equipped with an approved emergency agency Key switch, (Knox Key) which overrides all commands and opens the gate. All gates shall also be equipped with approved emergency vehicle strobe light detectors capable of detecting emergency vehicle pulsing strobe lights from any direction of vehicle approach, overriding all commands and opening the gate. Exit loop detectors shall be installed and activate (open) and shall be independent of any other device. Gates shall automatically open using battery power in case of power failure, or other means approved by the North County Fire Protection District. Such controls shall be installed to the satisfaction of the North County Fire Protection District.

Please re-vise the fire protection plan to address the specific areas above.

Feel free to contact me if you have any questions,


Sid Morel
Fire Marshal

NORTH COUNTY FIRE PROTECTION DISTRICT

315 East Ivy Street • Fallbrook, California 92028-2138 • (760) 723-2005 • Fax (760) 723-2004 • www.ncfire.org

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ROBERT H. JAMES - Counsel
LOREN A. STEPHEN-PORTER - Board Secretary

June 15, 2007

County of San Diego
Department of Planning and Land Use
5201 Ruffin Road Ste. B
San Diego, CA 92123-1666

RE: TM 5284, Chandler Subdivision

The Fire Protection plan presented to this agency dated May 2007 is not approved. Please review the following comments regarding this fire protection plan.

Under 3.1.4 include the Farm Labor housing:

The existing farm labor housing shall meet the requirements of "enhanced construction", including the installation of residential fire sprinklers. The access road to the farm labor housing shall be 24 feet wide with an approved fire department turnaround at the terminus. This access road shall have a 30 foot wide fuel modification zone cleared of all flammable vegetation on each side of the Farm Labor Access Road. The access road shall also have the proper turnouts as required for the rest of the project.

The Farm Labor access road shall be named and have proper a proper street sign in accordance with DS-13.

Page 14 number 5. Concerning the agricultural water system: It appears by the map presented that one of the large ponds is located on Chandler's property but is not a part of this project. Revise the fire protection plan to address the issue concerning the off site ponds and the private water system.

Page 15 3.1.5.2 Add the deleted plants that will not be permitted in zone A.

Page 18 Zone D Replace the word "needs" with shall have. This is in regards to the 100 foot wide fuel break.

Page 20 second paragraph, last sentence. The map provided shows the majority of this fuel break to be proposed and not existing.



PROUDLY SERVING THE COMMUNITIES OF FALLBROOK, BONSALE AND RAINBOW

***FIREWISE* 2000, Inc.**

Michael J. Rogers . 14646 Vintage Drive . San Diego, CA 92129

Office: 858.484.9876 . Cell: 858.248.3204 . Email: mikej@firewise2000.org

July 30, 2007

North County Fire Protection District
Attn: Sid Morel, Fire Marshal
315 East Ivy Street
Fallbrook, CA 92028-2138

RE: TM 5284, Chandler Subdivision

Dear Mr. Morel

This letter is in response to the new additional comments listed in your letter of June 15, 2007 as a result of your review of our May 2007 revision and submittal of the Chandler Property Fire Protection Plan. Our comments address the items in the order they were listed in your June 15, 2007 letter.

Under 3.1.4 include the Farm Labor Housing:

Our Response: The paragraph you wrote is incorporated into section 3.1.4 with the following exception. The slopes and topography on this property prohibit a 24 foot wide road to the Farm Labor Housing area as you requested. We request that you take into consideration the following points as you review our request for a 16' wide road to the Farm Labor Housing site:

- 1.) The Farm Labor Housing is existing and will be modified to comply with "Enhanced Construction" requirements.
- 2.) The Farm Labor Housing will have the same Fuel Treatment Zones as the 12 proposed homes.
- 3.) The Farm Labor housing is only used seasonally during the picking season Oct-May.
- 4.) Parking for 8 vehicles will be provided at the Farm Labor Housing site that is separate from the required emergency vehicle turnaround. The emergency vehicle turnaround will be designated **"No Parking at 'Any Time'".**
- 5.) The Consolidated Fire Code provides for 16' wide driveways serving no more than two residential areas. The driveway to lot 12 and the Farm Labor Housing area will be 16' wide on a 20' wide graded surface and has the requested turnouts (see the grading plan) and emergency turnarounds at the residence site on Lot 12 and the Farm Labor Housing site, also on Lot 12.

Our Response: This request is beyond Mr. Chandler's ability to bring about. All of the trees shown are on an adjoining piece of private property. This task comes more under the authority of the Fire Marshal notifying the property owner that he has a hazard on his property that must be abated. We do not believe it is appropriate to condition the approval of this Fire Protection Plan by requiring Mr. Chandler to bring about the removal of the hazardous palm trees on an adjoining piece of private property that Mr. Chandler has no control over.

This completes our response to your June 15, 2007 request for changes.

Please give me a call if you have any questions.

Sincerely,

/s/ Michael J. Rogers

Michael J. Rogers
Senior Wildland Fire Associate
Registered Professional Forester # 787
Certified Urban Forester # 109

Cc: County of San Diego
Department of Planning and Land Use
5201 Ruffin Road Ste. B
San Diego, CA 92123-1666

RE: TM 5284, Chandler Subdivision

***FIREWISE* 2000, Inc.**

Michael J. Rogers . 14646 Vintage Drive . San Diego, CA 92129

Office Phone: (858) 484-9876 . Cell Phone: (858) 248-3204 . email: mprogers88@aol.com

January 17, 2011

North County Fire Protection District
Attn: Sid Morel, Fire Marshal
315 East Ivy Street
Fallbrook, CA 92028-2138

Dear Fire Marshal Morel,

Since your approval of the Chandler Fire Protection Plan (TM 5284) in August of 2007 five more lots have subsequently been dropped from the project due the inability of these five lots to meet County Percolation Test \Standards. In an effort to aid you in your review of the revised Fire Protection Plan for the Chandler property I have provided you with the following items:

- 1.) A separate print out that shows all of the editorial changes to the July 2007 iteration of the Fire Protection Plan for the Chandler property in a "strike out-underline" format.
- 2.) Two new copies of the revised Fire Protection Plan, new Cover Sheet and revised Table of Contents, all Appendices and a revised Fuel Treatment Location Map. One copy is for your records, and after your sign off, the other Copy is to be returned to San Dieguito Engineering, Inc. Ste 105, Encinitas, CA 92024 for forwarding with the Chandler Project Submittal to County Planner Monica Bilodeau. An updated Project Facility Availability Form DPLU-399F needs to be provided by you and included within the copy you return to San Dieguito Engineering, Inc. I will also need a copy for my records.

I have also included a current CD with all of the files. If you have any questions you can reach me on my Cell Phone: (858) 248-3204.

Thank you. Again, please call me on my cell phone if you have any questions.

Sincerely,



Michael J. Rogers
Senior Wildland Fire Associate

NORTH COUNTY FIRE PROTECTION DISTRICT

330 S. Main Avenue • Fallbrook, California 92028-2938 • (760) 723-2005 • Fax (760) 723-2072 • www.ncfireprotectiondistrict.org

BOARD OF DIRECTORS

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wmetcal@ncfire.org
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LOREN A. STEPHEN-PORTER - Board Secretary
lstephen@ncfire.org

February 9, 2011

County of San Diego
Department of Planning and Land Use
5201 Ruffin Road, Suite B.,
San Diego, CA. 92123

RE: Revised Fire Protection Plan, TM 5284

The revised fire protection plan can be approved once a couple of items are fixed. Photo #9 needs to be revised to state the County Fire Marshal can correct the situation as the palms do not reside in our Fire District. If this project is not addressing the issue you might want to remove the picture all together.

Page 10: 2.3.1.2, remove the twelve and replace with 7.

Page 11: 2.3.1.4, Fire History needs to be revised as the Rice Fire is not the last large wildfire to threaten the Fallbrook Area.

Page 19: 3.1.5.3, The fee schedule should have language that states: "at the top step inspectors rate and that the rate may adjust based on salary increases"

Please revise those sections mentioned above and send a check for the review and I will submit your approval letter.


Sid Morel
Fire Marshal



PROUDLY SERVING THE COMMUNITIES OF FALLBROOK, BONSALE AND RAINBOW

***FIREWISE* 2000, Inc.**

Michael J. Rogers . 14646 Vintage Drive . San Diego, CA 92129

Office Phone: (858) 484-9876 . Cell Phone: (858) 248-3204 . Email: mprogers88@aol.com

February 15, 2011

North County Fire Protection District
Attn: Sid Morel, Fire Marshal
315 East Ivy Street
Fallbrook, CA 92028-2138

RE: Revised Fire Protection Plan, TM 5284

Dear Fire Marshal Morel,

Thank you for your letter of February 9, 2011, that listed needed corrections to the Fire Protection Plan for TM 5284. Your comments were welcomed and very constructive.

Each change is addressed as follows in the order listed in your February 9, 2011 letter. A copy of your letter is attached for reference:

Item 1: Remove Photo 9. Good suggestion as neither the applicant nor the County Fire Marshal have the authority to correct the condition of the palm fronds (beards) on the palm trees that align the west side of Harris Trail. This photo and text has been removed.

Item 2: Page 10 (now Page 8), 2.3.1.2. The reference to twelve building pads has been changed to correctly list seven building pads.

Item 3: Page 11 (now Page 9), 2.3.1.4. I think you meant to reference the Gavilan Fire. The narrative on Large Fire History has been revised to include the Rice Fire as the most recent large wildfire to impact the Fallbrook area.

Item 4: Page 19 (now Page 17), 3.1.5.3. You requested language is now included.

In addition, the cover page has been amended to note this next iteration. The Table of Contents has also been amended to reflect correct page numbers following the adjustments to the previous Fire Protection Plan text.

The included NCFPD billing has been forwarded to the client, Jeffrey Chandler for payment of \$396.00 to NCFPD.

In an effort to aid you in your review of your requested changes I have provided you with the following items:

- 1.) A separate print out that shows all of the editorial changes to the January 2011 iteration of the Fire Protection Plan for the Chandler property in a "strike out-underline" format.
- 2.) Two new copies of the corrected pages of the January 2011 Fire Protection Plan, new Cover Sheet, a revised Table of Contents and two updated Fuel Treatment Location Maps for insertion into your binders. One copy is for your records, and after your sign off, the other Copy is to be returned to San Dieguito Engineering, Inc. Ste 105, Encinitas, CA 92024 for forwarding with the Chandler Project Submittal to County Planner Monica Bilodeau. An updated Project Facility Availability Form DPLU-399F needs to be provided by you and included within the copy you return to San Dieguito Engineering, Inc. I will also need a copy for my records.

I have also included a current CD with all of the revised files. If you have any further questions please contact me by email or cell phone as listed above.

Thank you. And again, please call me on my cell phone if you have any questions.

Sincerely,



Michael J. Rogers
Senior Wildland Fire Associate

REPORT ON THE ADEQUACY OF ON-SITE AG WATER

S&S Grove Management Services, Inc.
30470 Circle R Lane • Valley Center, CA 92082 • Phone 760.432.0207 • Fax 760.432.0217

May 7, 2007

San Diegito Enbginering
4407 Manchester Avenue
Encinitas, CA 92024

Attention: Mel Landy

Re: Water availability for Chandler Ranch Co. during drought conditions.

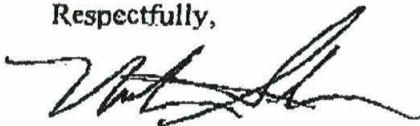
Chandler Ranch Company (CRC) has adequate subsurface water to maintain the grove operations during normal rain seasons.

Due to the drought conditions for the past two seasons CRC has had to bypass all catchments water due to high chloride content. This water would be fine for the general health of the trees but does affect optimum fruit setting capabilities and therefore we have supplemented with district water. Even under these conditions it only requires usage of about one third district water. During normal rainy seasons there is generally adequate leaching capacity to allow us to avoid using district water.

Under a severe drought condition, where the district would restrict usage, CRC can maintain healthy trees by the use of subsurface as well as catchments water. This is an advantage that CRC has over most of the groves in San Diego County.

If you have any further questions regarding this matter I may be contacted at the above address or phone.

Respectfully,



Mike Sanders
President
S&S Grove Management Service Inc.

FPUD Project Facility Availability Form

Chandler Property FPP"



COUNTY OF SAN DIEGO
DEPT. OF PLANNING & LAND USE
5201 RUFFIN ROAD, SUITE B
SAN DIEGO, CA 92123-1666

(858) 565-5981 • (888) 267-8770

PROJECT FACILITY AVAILABILITY FORM

WATER

W

Please type or use pen

Owner's Name Jeff Chandler Phone 760 634-6410
Owner's Mailing Address PO Box 1315 Street _____
City Rancho Santa Fe State CA Zip 92067

ORG _____
ACCT _____
ACT _____
TASK _____
DATE _____ AMT \$ _____

DISTRICT CASHIER'S USE ONLY

SECTION 1. PROJECT DESCRIPTION

TO BE COMPLETED BY APPLICANT

- A. ☒ Major Subdivision (TM) ☐ Specific Plan or Specific Plan Amendment
☐ Minor Subdivision (TPM) ☐ Certificate of Compliance: _____
☐ Boundary Adjustment
☐ Rezone (Reclassification) from _____ to _____ zone.
☐ Major Use Permit (MUP), purpose: _____
☐ Time Extension...Case No. _____
☐ Expired Map...Case No. _____
☐ Other _____

Assessor's Parcel Number(s)
(Add extra if necessary)

1	0	2	1	0	2	7,8,9,10,11
1	0	2	0	8	4	14,15,16

- B. ☒ Residential Total number of dwelling units 12
☐ Commercial Gross floor area _____
☐ Industrial Gross floor area _____
☐ Other Gross floor area _____

Thomas Bros. Page _____ Grid _____

- C. ☐ Total Project acreage 255.5 Total number of lots 12

Project address _____ Street _____

- D. Is the project proposing the use of groundwater? ☐ Yes ☒ No
Is the project proposing the use of reclaimed water? ☐ Yes ☒ No

Community Planning Area/Subregion _____ Zip _____

Owner/Applicant agrees to pay all necessary construction costs, dedicate all district required easements to extend service to the project and COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature: San Diego City Engineering Date: 12/13/06
Address: 4407 Manchester Ave, Ste 105, Encinitas Phone: 760 753-5525

(On completion of above, present to the district that provides water protection to complete Section 2 below.)

SECTION 2: FACILITY AVAILABILITY

TO BE COMPLETED BY DISTRICT

District Name: Fallbrook Service area Deluz

- A. ☒ Project is in the district.
☐ Project is not in the district but is within its Sphere of Influence boundary, owner must apply for annexation.
☐ Project is not in the district and is not within its Sphere of Influence boundary.
☐ The project is not located entirely within the district and a potential and a potential boundary issue exists with the _____ District.
- B. ☒ Facilities to serve the project ☒ ARE ☐ ARE NOT reasonably expected to be available within the next 5 years based on the capital facility plans of the district. Explain in space below or on attached _____ (Number of sheets)
☐ Project will not be served for the following reason(s): _____
- C. ☐ District conditions are attached. Number of sheets attached: _____
☐ District has specific water reclamation conditions which are attached. Number of sheets attached: _____
☐ District will submit conditions at a later date.
- D. ☒ How far will the pipeline(s) have to be extended to serve the project? 7,500+ feet

This Project Facility Availability Form is valid until final discretionary action is taken pursuant to the application for the proposed project or until it is withdrawn, unless a shorter expiration date is otherwise noted.

Authorized signature: Jeff M Marchand Print name Jeff M Marchand
Print title Engineering Tech Phone (760) 720-1125 Date 12-27-06

NOTE: THIS DOCUMENT IS NOT A COMMITMENT OF SERVICE OR FACILITIES BY THE DISTRICT
On completion of Section 2 by the district, applicant is to submit this form with application to:
Zoning Counter, Department of Planning and Land Use, 5201 Ruffin Road, San Diego, CA 92123